

SNAP!

AFFORDABLE QUALITY DIGITAL CAMERAS

Macworld

MORE NEWS, MORE REVIEWS

Mac revival

Old Macs, new tricks:
Easy upgrade guide

Mac OS X

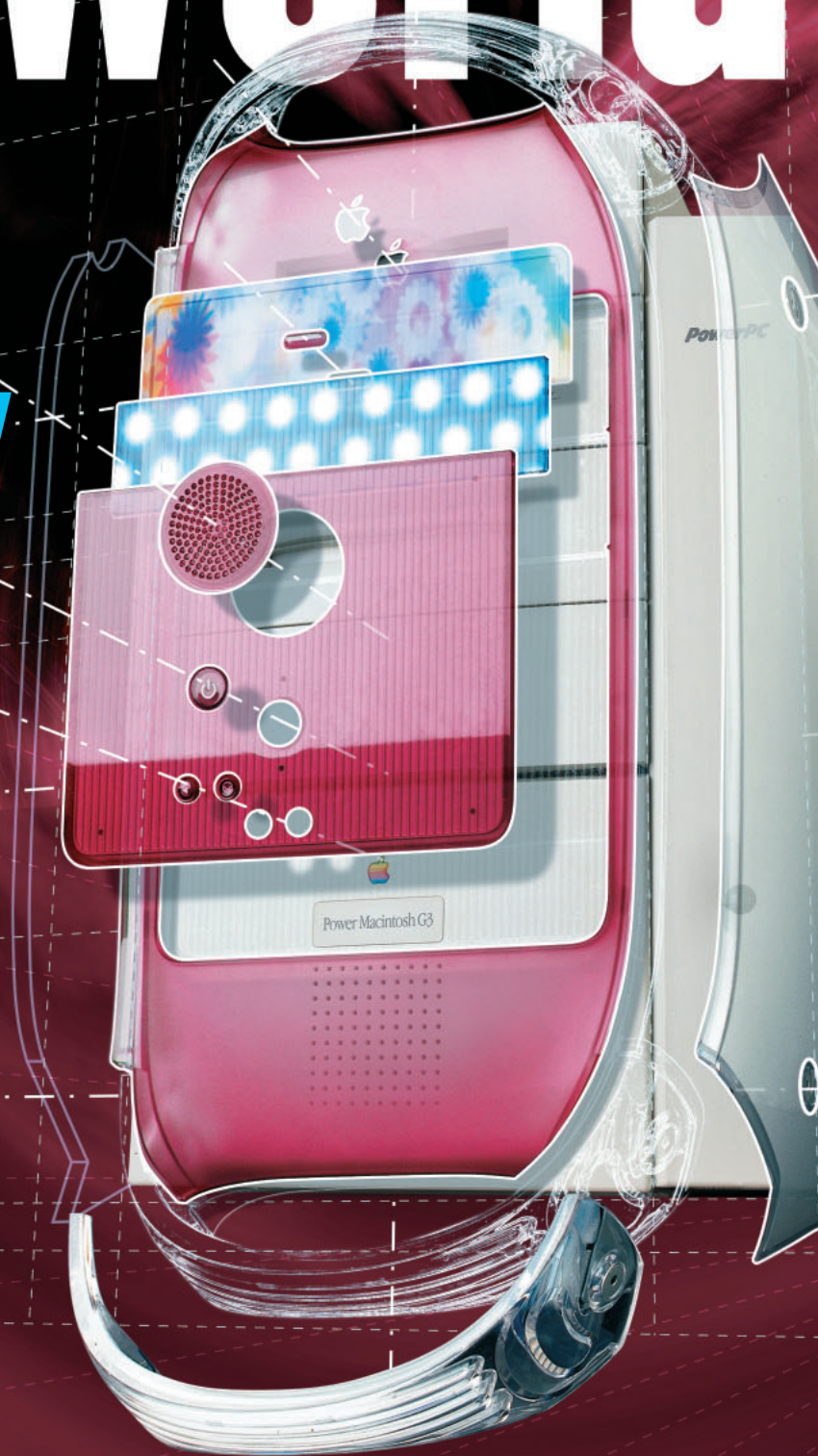
Speed and compatibility tests

Test drive your Web site

How to create a simple prototype

Lights! Camcorder!

Expert tips on lighting your iMovies





Simon Jary
editor-in-chief

All that money in the bank is worthless if Apple doesn't start spending big on its hardware and software partners.

The billion dollar drain



"Now that Apple's saved, it's time for the company to Spend! Spend! Spend!"

Apple is a very rich company. Not as rich as Microsoft, but very well-to-do all the same. It loves to boast of its \$4 billion bank balance more than David Ginola goes on about his fine follicles. That's more than \$1 for every floating-point operation a G4 can achieve per second. We put all that dosh in its coffers, so it's reassuring that Apple hasn't frittered it all away on Newtons, Pippins and Cubes.

Apple's \$4bn in cash and short-term investments at least proves the company has legs as long as Jerry Hall. Apple used to have yet more digital dough. Even under the cost-cutting stewardship of Gil Amelio (Apple CEO, 1996-97), Apple lost \$1.6bn. Under returning co-founder Steve Jobs, Apple started to recoup its losses with a series of nine-figure profits. Now that it's saved, it's time for Apple to Spend! Spend! Spend!

Apple can do a lot with its banked billions. It has already bought a company called PowerSchool (\$62m), to re-invigorate its dwindling education sales. Apple is also advertising more now than ever before, with iMac, PowerBook and iTunes ads cropping up on the telly between commercials for Charmin Ultra and Deflatine.

Research and development budgets could be bumped up, to follow-on from the company's many industrial-design triumphs, and Mac OS X, iMovie, etc. And Apple is reportedly looking at bricks as well as clicks, with planned investments in high-street shops supplementing the online Apple Store.

Mac prices could be cut to increase volumes and boost market share. On top of this, Apple could start giving away Mac kit to desperate schools to lure today's kiddies away from the bland world of Windows.

But Apple should first spend the biggest chunk of its silicon spondulicks on helping its partners optimize their programs and peripheral drivers for Mac OS X.

As *Macworld* has pointed out every issue for about the last 48 months, OS X is the future of the Macintosh. Apple is betting the farm on its next-generation operating system – built on tough Unix foundations and topped off with a candy-coloured Aqua user interface.

As we point out on page 79, Mac OS X is great... when you're using software that has been specially optimized (Carbonized). Despite totally ignoring the aged code of Mac OS 9, X is clever enough to handle non-optimized applications under Classic emulation. However, as with all emulation (Windows on the Mac via Virtual PC, for example), this is often slower than Chinese diplomacy. Also, non-Carbonized programs don't benefit from OS X's best new features: protected memory, pre-emptive multitasking, etc.

Apple has promised an "avalanche" of Carbonized applications this summer – most of them presumably

announced during July's Macworld Expo in New York. But, for now, there are so few optimized programs that OS X doesn't make a compelling upgrade.

This gets worrying later this summer when Apple ships all its Macs with OS X as the default operating system. What if this avalanche turns out to be a slight frost? Mac OS X, and effectively all new Macs, will run slower and connect to a lot less peripherals than even Windows 95, let alone Win 98 or the forthcoming Win XP. Apple needs Carbonized software like a baby needs nappies – without them it's sat in a big mess.

So Apple must splash its Mac mazuma on ensuring that all major apps are optimized to run efficiently on OS X. It must send an army of X softies out to Adobe, Macromedia, Quark, Microsoft, Steinberg, Connectix, Extensis, MacSoft, Aspyr, Corel, Media 100, Symantec, et al. Another legion of X hard men must be immediately dispatched to HP, Epson, ATI, Nvidia, Wacom, Hermstedt, Palm, Agfa, Canon, Xerox, LaCie, Iomega, and Sony, etc.

Apple must reinforce these OS X foot soldiers if any company drags its feet on releasing optimized versions of its products. It's essential that Apple prioritizes this X-engineer invasion whatever the cost – even if its cash reserves slip well below the billion mark. A poorly supported OS X is a severely wounded Macintosh, and an injured Mac is a short-fuse time bomb ticking under Apple's long-term prospects.

The reports that I get from third-party developers is that Apple is hardly stretching helpful hands to its key developers when it comes to aiding the Carbonization process. Apple is in danger of doing a Lennox Lewis.

Sending Xperts to a dozen major developers is not going to cost much more than a few million dollars. Even \$100m is not going to trouble Apple's bank manager if it means the company can move ahead with its bold new operating-system strategy. That \$4bn won't last long if no one but the early adopters is upgrading from OS 8 and 9, or buying new Macs because OS X looks like a white elephant. OS X achieved \$19 million in sales just one week after its March 24 launch. All of this X brass must be ploughed back into a Carbonizing Jihad of Biblical proportions, or all that lovely lolly will be lost.

All Apple's effort on developing Mac OS X will be wasted if the software developers don't jump onboard sharpish. It's not up to the likes of Adobe and Quark to ensure that the Mac survives – these companies can sit back and watch a migration to Windows if they wish. It's up to Apple, and I'd be a lot happier if it had less cash in the bank and more of its customers enjoying the many benefits of Mac OS X.



64

Digital cameras

Two-megapixel cameras tested and rated.



137

Missing Manual

How to light your iMovies.



86 Old Mac, new tricks

In the first installment of our new series, read how to assess an older Mac's capabilities and fix it up without spending a lot of money.



79 Are you ready for Mac OS X?

Mac OS X has shipped at last, but are you ready to make the change? Macworld Lab and Henry Bortman examine your options – and the consequences of making the move now.



93

Web design

Avoid live disasters by using a prototype.



CONTACT

Editor-in-Chief	Simon Jary editor@macworld.co.uk
Deputy Editor	David Fanning davidf@macworld.co.uk
News Editor	Jonathan Evans news@macworld.co.uk
News Reporter	Dominique Fidèle dominiquef@macworld.co.uk
Managing Editor	Sean Ashcroft sean_ashcroft@macworld.co.uk
Chief Sub-Editor	Woody Phillips woody@macworld.co.uk
Art Editor	James Walker james_walker@macworld.co.uk
Art Director	Mandie Johnson mandie_johnson@macworld.co.uk
Managing Editor/Online	Gillian Thompson gillian_thompson@macworld.co.uk
CD Editor	Vic Lennard
US Editor	Andrew Gore
Contributing editors	David Pogue, Deke McClelland, Franklin Tessler, Bruce Fraser, Christopher Breen, Matthew Bath, Peter Cohen, Adam C Engst, Jim Heid.
Group Advertising Manager	Mustafa Mustafa mustafa@macworld.co.uk
Deputy Advertising Manager	Dean Payn dean_payn@macworld.co.uk
Display Sales Executive	James Poulson jamesp@macworld.co.uk
Classified Sales Executive	Alex Cheesman alex_cheesman@macworld.co.uk
Classified Sales Executive	Clive Page clive_page@macworld.co.uk
Production Manager	Sharon Bird sharonb@idglondon.co.uk
Deputy Production Manager	Richard Bailey richardb@macworld.co.uk
Production Assistant (Ads)	Nikki Basten nikki_basten@idglondon.co.uk
Marketing Manager	Jo Brown jo_brown@macworld.co.uk
Circulation Manager	Jim Birch jim_birch@macworld.co.uk
Marketing Co-ordinator	Kelly Crowley kelly_crowley@macworld.co.uk
Marketing Assistant	Sam French samf@macworld.co.uk
Publisher	Guy Eaton guy_eaton@macworld.co.uk

Macworld is a publication of IDG Communications, the world's leading IT media, research and exposition company. With more than 300 publications in 85 countries, read by more than 100 million people each month, IDG is the world's leading publisher of computer magazines and newspapers, providing the answers buyers need to make purchase decisions.

IDG Communications, 99 Gray's Inn Road, London WC1X 8UT.
Tel: 020 7831 9252. Sales fax: 020 7405 0262
Macworld (UK) is an independent journal not affiliated with Apple Computer. Apple, the Apple logo, Mac, and Macintosh are registered trademarks of Apple Computer. All contents © IDG 2001, except articles adapted from Macworld US © Mac Publishing LLC.
ISSN 1356-9503
Colour Origination: Lumis Colour Printed by St Ives (Plymouth). Covers printed by Hubbards (Sheffield) on paper produced in sustainable forests. Macworld editorial domestic Internet access courtesy of Netscalibur (0800 072 0000, www.dircon.net).
Stock photography courtesy of Cadmium (www.cadmium.com)
MACWORLD SUBSCRIPTIONS: 01858 435 304 A subscription to Macworld includes 12 issues, 12 CDs and FREE gift (see page 84).
Subscribe by Direct Debit for just £39.66 UK (Europe £88.97; RoW, £113.98). By Post: Macworld Subscriptions, FREEPOST (WC4336), Leicester, LE87 4DE. Fax: 01858 434 958 Phone: 01858 435 304. Web: www.macworld.co.uk/subs/subs.cfm

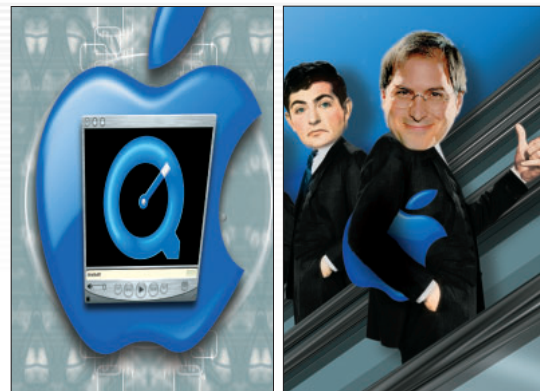


Macworld's ABC-audited circulation is 31,640 (July-December 2000).

Macworld www.macworld.co.uk

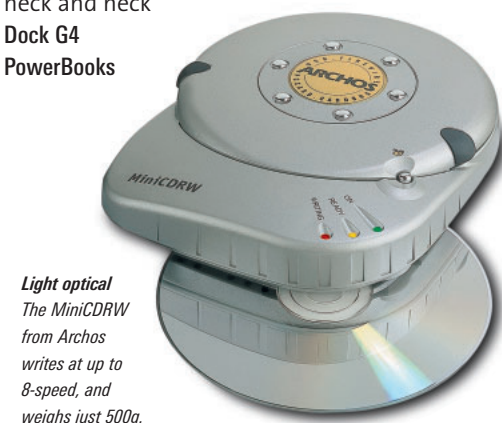
NEWS

20 New Apple products
Landmark for 'saviour' iMac
667MHz G4 scrapped Macromedia's
X plans 3D Web speed boost OS X
updater developer fillip X file-buster
Publishing's sight of future Quark
previews XPress 5.0 Broadcast is hot
news Media 100's product flurry
Firmware RAM-crash peril Memory
price flux Softline inks games deal
Apple rides PC storm



PRODUCT NEWS

39 Dazzle gives DV Hollywood spice
Scanner in the frame NEC ships
projectors Lexmark's inkjet move
Mitsubishi's diamond monitors FinePix
goes graphite Epson pair a perfect match
Archos CD burner hits UK Projector giants
neck and neck
Dock G4
PowerBooks



Light optical
The MiniCDRW
from Archos
writes at up to
8-speed, and
weighs just 500g.

COMPETITION



98 Competition
Win one of 20 great security
packages from Symantec!

151 BUYER'S GUIDE

151-155 Buying a Mac Macworld's advice for readers
buying a G4 Cube, Power Mac G4, iMac, iBook or
PowerBook G4. Includes UK's only benchmark
scores updated every month.

157-169 Star Ratings A full listing of our
acclaimed product reviews and group tests
for the previous 12 months, with features
index and detailed buying advice.

171 Shopping Advice on buying
from mail-order companies.
And 24 pages of dealer ads.



CREATE



141 Create: web
Use Fireworks to write
JavaScript automatically.



145 Q&A
Restore Word shortcuts
and extend AirPort mileage.

THE MACWORLD AWARDS 2001



131 Macworld Awards
Check out our and your
favourite Mac products
from the last year.



EVERY MONTH

10 Letters
OS X grumbles; mouse
banging; iMac colours...

49 David Fanning
The Net is dying, but there's
a ray of hope.

13 CD pages
PhotoStudio 4.0; AMAPI 6.0;
TypeStyler 3.7.2; Star Quest;
Cro-Mag Rally II; OS X apps



84 Subscriptions
Get a free copy of Studio
Artist 1.5 with 12 issues
of Macworld.

51 Michael Prochak
The PowerBook G4 could ruin
your sex life.

160 Internet directory
Domain name registration,
hosting and support.

167 Career moves
and Training
Mac-skill courses and jobs.

194 Andy Ihnatko
Why 2001 will be like 1984
all over again.

REVIEWS



52-57 Adobe After Effects 5.0;
Adobe Acrobat 5.0;
USB Microscope

58 OmniWeb;
Sherston's Literacy Bank

62 Trackball Explorer;
Trackball Optical;
Cordless Trackman FX;
Expert Mouse Pro;
Shuttle Pro;

63 Formac Studio;
Explore Parliament

64-65 Fujifilm FinePix 2400;
HP PhotoSmart 315;
HP PhotoSmart 618;
HP PhotoSmart 912;
Kodak DC3400;
Kodak DC3800;
Olympus C-2040



64

65 Sherston's Number Plane
66 Digidesign's Pro Tools TDM
69 Bungie's Oni
70 Books:
Macromedia Flash 5 Visual;
Macromedia Flash 5!;
Flash Web Design;
Flash 5 Magic;
Macromedia Flash Advanced;
72 Farallon SkyLine PCI Card;
Farallon NetLine Wireless
Broadband Gateway;
Telewest blueyonder



Subject: Yanked off
International-English updates always seem to appear a few months later than the North American equivalents – or, worse, not at all. But, now, who are we to complain? While Americans and Canadians do their nut as their RAM ‘disappears’ [see page 31, this issue], we can remain safe in the knowledge that – as we can’t install the dodgy new firmware – it’s impossible for our precious memory to go AWOL. Thank you, Apple.
Benjamin Harris

Subject: Paper chase
I am surprised about a regular theme I detect in *Macworld*: the universal yearning for paper manual documentation to support applications. As a typical Apple user would regard themselves as more innovative than the typical PC user, surely the call should be for more searchable and illustrative on-screen information.
Paul Keeton

Subject: Going off sex
I recently became the proud owner of a G4 PowerBook. Very sexy and very powerful it is too – but not very portable. I found that every time I picked it up, it switched off.
The G4, in its infinite wisdom, assured me the year had suddenly become 2040. Of course I had Norton Disk Doctor to fix any problem. But Norton reset the year to 1945 and told be my Volume Header Block was damaged. I found this rather inconvenient, so I sent it to back to Apple. It found and fixed the problem straight away.

Your Star Letter wins a copy of Office: 2001, worth £480

We reward the best reader letter with a copy of Microsoft’s Office: 2001 for Mac. This integrated package of business applications includes enhanced versions of the market-leading Word, Excel and PowerPoint programs, as well as the new Entourage – a personal-information manager and email client.

Write to: Letters, Macworld, 99 Gray’s Inn Road, London WC1X 8UT.

Or email letters@macworld.co.uk. Please provide full name and contact details.

Having spoken to an engineer, it seems this problem is not uncommon. I hope Apple has now remedied this situation. It would be such a waste for all those PowerBooks out there to be used only on desktops.
Peter Gregory

Subject: OS X is just rude
I really want to like Mac OS X. But it won’t let me turn off anti-aliasing, or change the size of the grid so that when I clean up a window it has some relationship to size of the icons, or use “smart” scrolling arrows at the bottom of a window, or modify icons, or put my files where I wanted to put them. It won’t even let me backup...

I could live with any of these until Apple gets them sorted out, but, every which way I turn, I am met by roughly the same message: “You do not have enough privileges”.

This is extremely unfriendly – especially when it’s my computer, my software, my files and, most of all, my time. For the first time ever (since I started, using system 6), I have found myself getting angry with the OS. My Mac has always had its little foibles before, but, somehow, it’s always been friendly too. Ultra sharp multitasking, multi threading, bouncing dock and wonderful new aqua are all very nice, but the biggest difference of all is that Mac OS X is no longer the buddy in my machine.

And that is a change too far.
John Cowan

Subject: Pathetic partner
It was with interest that I read in your May issue that PC World is now an Apple retail partner. My wife and I spent about 10 minutes in the Mac section of East Kilbride’s store, admiring the various iMacs and a G4.

Star Letter: RAM down prices

You may not be aware that there lies more than a grain of truth in Simon Jary’s tongue-in-cheek *Macworld* column (May, page 4) that: “Under OS X, repeatedly rapping your mouse on the desk will actually speed-up actions such as loading Web pages”.

On older Macs with AppleShare over LocalTalk, network arrows gone static would flicker back to activity in response to vigorous movement of the mouse. Orb juggling from a Kensington Trackball is expected to yield similar gains, although beta testing has not yet been undertaken (my ADB Kensington is gathering dust since I got a DP G4 with USB).

I got as far as “Mac OS Y” before realising that the editorial was somewhat squiffy. This is either a sad reflection of my gullibility – or a happy confirmation that Apple’s customers have become accustomed to user-interface innovations that are truly harmonious with human behaviour.
Graham Perrin



A salesman approached us and said: “Nice colours, but it doesn’t make them work any better!”. We walked out in disgust. Is this the kind of “partner” that Apple UK needs?
James Goodman

Subject: Budding tastes
Everybody seems to be up in arms about the new Flower Power and Blue Dalmatian iMac designs. But how long will it be before you can add your own design to the casing as an optional extra? Apple could offer kids an iMac sporting their favourite football club or pop group? Then, Apple might tempt me to upgrade to a truly ‘personal’ computer. All in the best possible taste, of course!
Stephen Baker

Subject: Personality attack
As a dedicated Mac lover since the 1984 revolution, I doubt if many could have been looking forward to OS X more than me. OS X is undeniably beautiful. But beauty is, as they say, only skin deep. While there may be many a code warrior drooling at the thought of Unix, what

I’m interested in – like most others, I suspect – is personality.

I feel as if a loyal and loving partner of 16 years has been kidnapped and replaced by an arrogant, patronizing, unsympathetic, tyrannical sex goddess. I think OS X has the same “too smart and helpful for its own good” attitude as Microsoft Office.

Let us not canonize Steve Jobs too hastily. There’s no doubt that he has turned around the disaster-bound supertanker, but he is far from infallible. I suggest you read *The Mac Bathroom Reader* by Owen W. Linzmayer (now updated as *Apple Confidential*). If Steve had had his way our Macs would be called Apple Bicycles!
Alf Megson

MW

■ *Apologies to readers of our May issue for the printers’ error... OK, our amazing blunder, which replaced the final few paragraphs of our iMac review (pages 55-56) with the first few paras. You can read the whole review, as God and editor intended, at the Buyers Guide on www.macworld.co.uk.*

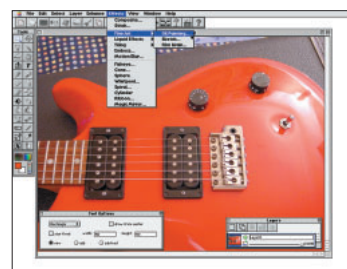
A 30-day trial of PhotoStudio 4 plus long evaluation versions of Amapi 6.0 and TypeStyler head up this month's CD. Add plenty of demos, updaters, utilities and games for the complete package. Vic Lennard looks at the highlights...

MAIN ITEMS



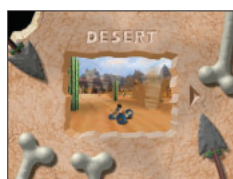
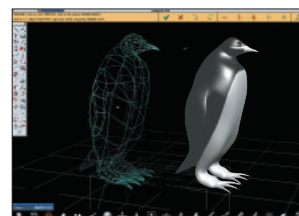
PhotoStudio 4.0 30-day trial

PhotoStudio is a full-featured, easy-to-use photo editor, providing a huge collection of editing and retouching tools, plus a large assortment of enhancements and special effects with unlimited levels of modification. It also offers many other high-end features such as image management, multiple undo/redo, multiple layers, editable text, macros and batch-processing. Requires a Power Mac running Mac OS 8.5 or later with 64MB available RAM.



AMAPI 6.0 trial – expires 18/7/01

AMAPI 3D offers an innovative approach to 3D modelling with a large selection of advanced tools. Improvements include new primitives, Bump and Unbump, HeightFields and Wrappers tools, an enhanced rendering module, Spherical Deformer, and 3Space export for dynamic Web 3D contents. Requires a Power Mac running with 32MB available RAM.



Cro-Mag Rally II demo

Race against your friends or the computer in this madcap racer. Play multi-player games as two players on one computer, or up to six players over a network. This demo lets you play the first two tournament and battle tracks. All game modes are enabled, including the multi-player split-screen and network modes. Expires after 90 minutes of play.

Check instructions for computer specs. Requires OpenGL 1.2.1 (asu.info.apple.com/swupdates.nsf/artnu/m/n11545).



Star Conquest demo

Star Conquest is a turn-based strategic wargame. It may be played as a single player, multi-player or network game. Up to 10 players can play in a game, accompanied by up to 10 computer controlled players. Guide your species in its expansion to all corners of the universe.

Requires 150MB free disk space and 25MB available RAM.



TypeStyler 3.7.2 trial

TypeStyler 3 is a fast and easy way to create high impact graphics for digital designs, bringing style to your typographical creative visions. It's a quick alternative to hand-drawn or phototypeset styled type. Design, layout and print headline text and logos. Yours to try in full for 60 days! Requires a Power Mac with 32MB available RAM.

Cover CD

JUNE 2001

The CD-ROM on the cover of *Macworld* is supplied as is, subject to the following terms and conditions. The CD-ROM is provided as a free item to readers of *Macworld* for their personal use, and may not be resold or copied for distribution. The publisher shall have no liability without limitation for any losses or damage arising from using cover-CD software – or for taking advice from *Macworld's* CD trouble-shooting point-of-contact – including any loss of profit, damage to equipment or data, interruption of business, or any other damage, direct or accidental. It is strongly recommended that you back-up any programs or data on your hard disk before installing any cover-CD software. If problems occur, it is most likely to be a result of an incompatibility or conflict with other software on your system. *Macworld* cannot be held responsible for discontinued offers. This does not affect your statutory rights.

INSTALL



Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

■ Acrobat Reader+Search 4

Install this version to be able to read many of the on-screen manuals.

■ Stuffit & RealPlayer

Versions 5.5 and 6.0.1 of Stuffit Expander and DropStuff are included as is the installer for RealPlayer 8.

■ System tools & ATM Lite

The CD also carries the latest version of InternetConfig, UnZip 5.32 and ATM Lite 4.6.1 (required for Suitcase 9).

■ QuickTime 4.1.2

Some programs require QuickTime 4.1.2. This can be downloaded from www.apple.com/quicktime/download.

INSIDE MACWORLD



Audion 2.1 PR3 OS X

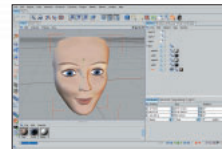
Plays audio CDs, MP3s and streaming network audio plus encodes, edits, mixes, sorts and manages files. OS X only. Shareware.

GraphicConverter 4.06

Excellent tool for converting pictures to different formats. Includes image manipulation and batch conversion. Carbon version. Shareware.

Rubicon Network Map

Contains 51 network levels for Rubicon. Incompatible with standalone version on last month's CD. Freeware.



Maxon XL BP

Carbon version of Cinema 4D XL 3D modelling package plus Bodypaint 3D. Preview.

DIMM First Aid

Checks memory specification for compatibility and recovers disabled RAM from Apple's latest firmware updates. Freeware.

MusicMatch Jukebox 2.0

Powerful MP3 jukebox software for recording, downloading, organizing and playing MP3s. Freeware.

plus...

iCamMaster (OS X)
Cricket 6.0 demo
Search & Rescue
QuickKeys 5.0 demo
Timbuktoo Pro 5.2 eval
OmniWeb 4.0c3 demo
Inspiration 6 trial

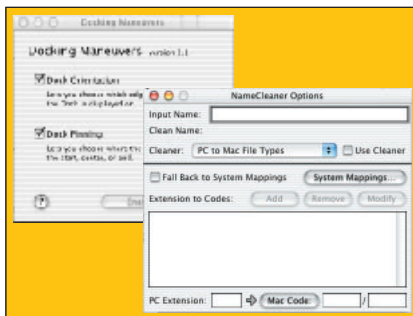
CD CATALOGUE



Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 to 2001 – almost 215,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (2.1) is also included – don't forget to register if you find our library useful.



OS X HEAVEN



OS X Heaven – your monthly port of call for the latest OS X-specific software. Utilities, demos, shareware and games – OS X Heaven will play host to all that's best for the Mac's new operating system.

To get started we have 20 shareware utilities including **Docking Maneuvers**, a simple tool that allows you to move the Dock to any edge of the screen and anchor it in any corner, and **NameCleaner**, a utility to manipulate file names and types.

You'll also find three Carbonized games including Mike's Cards, a fantastic set of solitaire games. Enjoy it freely for 30 days. And those who like playing Yahtzee will enjoy Turtle Dice, a simple implementation of a single-player version.

SERIOUS SOFTWARE

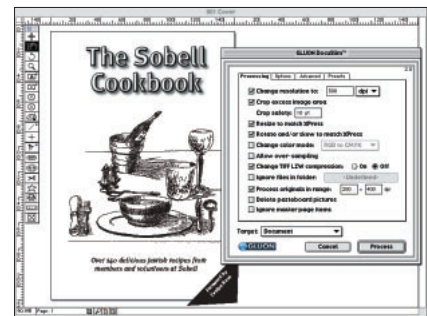


Bottom Line 1.1.5 trial

Bottom Line is an integrated accounting package specifically for small and medium sized businesses. It is Mac only and has been designed from the ground up using the best features of the Mac's graphical user interface. Ease of use and immediate response have been foremost in the design criteria as well as security of data, protection from data loss and production of strict audit trails.

The software consists of three integrated modules: Sales Ledger, Purchase Ledger and General Ledger.

This evaluation copy is fully functional. You can set up your accounts and use it for up to two months.



Eight Gluon XTensions

Try the latest demos. **ColorBreaker 4.17** is an automated colour mark-up utility. **SpotCheck 4.02** allows easy toggling to/from spot colours. **DocuSlim 2.0** automates image cropping, rotation, resizing and reimporting. **Sluggo 5.06** tracks changes to documents. **TableMaker 5.01** lets you build elegant tables. **PrintTrack 2.51** continually monitors and manages background printing. **IntelliTrack 2.51** tracks documents and exports data to a central database.

ProScale ID allows InDesign users to scale non-proportionally.

Check instructions for demo limitations. Remember that in demo mode, files saved in Quark can only be opened in demo mode.

Cover CD

JUNE 2001

FAULTY COVER CD-ROM?

• If your cover disc is broken and you want a replacement CD, please contact Kelly Crowley, on 020 7831 9252, or email at kelly_crowley@macworld.co.uk.
• If your cover CD doesn't seem to work as it should, please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email Woody Phillips at woody@macworld.co.uk.

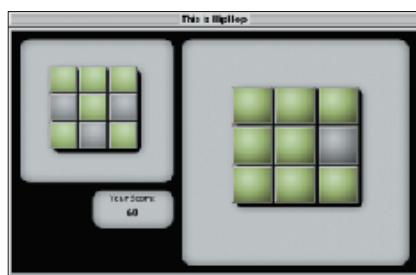
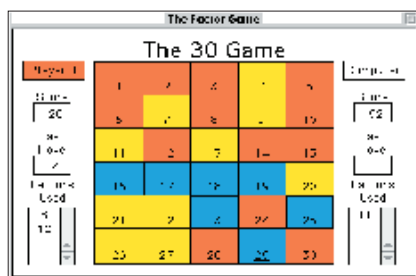


GAMES WORLD

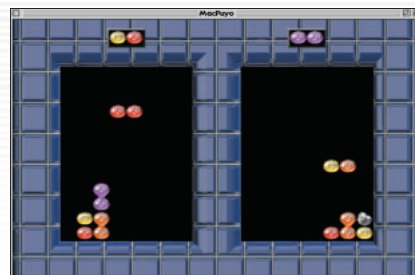


Bushfire 1.06 demo

Experimental Pine Forest number 13 is the last remaining forest of Goose Spruce trees. These rare fir trees have been in steady decline for the last four decades and the EPF13 was established to preserve those remaining and attempt to prevent their extinction. In order to protect the forest, and the holidaymakers who are allowed in the forest, a helicopter-based fire service was formed, with a specially modified fire-fighting helicopter and a team of smoke jumpers who can be parachuted into the forest to help control any fires that break out. Your mission: put out any forest fires, and don't let any civilians get hurt! Carbonized. Requires an up-to-date version of CarbonLib.



DEMOS & GAMES



This month's Top 10 Shareware Games are split between arcade and strategy. If you like action, try **BeamTron 1.0.1**, a Tron cycle-based game, **Brickles3000** for a good old-fashioned paddler, or **Bob's Bricks Millennium Edition 1.0**. If you're into puzzles then go for **Domitrix**, **The Factor Game** or **HipHop**. While quite different, they'll have you scratching your head for ages!

We've also included a couple of good Tetris-style games. **MacPuyo 1.5** is the latest version of an evergreen while **Shapes II** also requires fast reactions.

And don't forget **War on Lithon 3.0**, a turn-based war game, and one of the most unique games we've come across in ages – **Juggler II**.

(Top row) **Brickles 3000** & **MacPuyo**
(Middle) **The Factor Game**
(Bottom) **HipHop**

ALSO ON THE CD



COMMS & INTERNET

10 applications including:
Email Effects 1.6.8
HTML-Optimizer 4.3
WebsiteCompressor 2.1.7

EDUCATION

Three utilities including:
Angle Doubling
Quick T-Test

FONTS

LogotypeMaker Pro 2.5.3
FontChecker 1.3.1

GRAPHICS

Four items including:
ButtonMaker 2.3.1
Moho 2.5
Screen Catcher 2.3.3

ICONS & UTILITIES

Iconographer 2.0.2

INFO



ATPM 7.04
Cross Platform 1.1.2
plus three utilities
for developers

MATHS & SCIENCE



Five items including:
CalcWorks 1.7.3
Periodic Table 2.6.1

SCREENSAVERS

FlavorSavers 2.7.3
The Planets 2.0

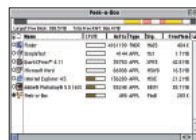
SOUND & MUSIC

Four programs including:

Amazing Slow Downer 1.04
Virtual Composer 2.7.9

UTILITIES

Eight categories with
almost 40 useful tools
for your Mac including:
Aladdin DropZip 6.0.1
Default Folder 3.1
DiskSurveyor 2.0.1
Dot What 1.4
DragThing 4.0
Drop Drawers 1.5.3
EjectDisk 3.16
EZNote 1.51
FileGeek 2.5
HideFolders 2.3
InsertDate XT
MoosePad 1.2.1
PandoCalendar 5.6.1



Peek-a-Boo 1.6

PullQuote XT
QXP Delivery 1.2.1

Rosetta 1.1.1



SwitchBack 3.3

TableText 1.0.6
TextInset XT
TextSpresso 1.8.1
Word Search 2.9.1

UPDATERS

This month's dedicated
updaters folder includes
over 40MB of patches
to bring many popular
applications bang
up-to-date, including:

DiskLock 4.6.5
iMate 2.6.1
NetBarrier 2.0.3
Norton AntiVirus 5-7 (04/01)
Spellswell 7.2.1.6
Virex (04/01)
Virtual PC 4.0.2
VirusBarrier Updater 1.5.3
VST FireWire 2.3

DON'T MISS...

Cool Extras

Clear Skies 1.0
Bring the night sky to
your desktop.

Rubicon Desktop Pix
Three superb Marathon
Rubicon desktop pictures
by Eric Draht.



Mac ISPs

Internet access offers from Abel gratis, AppleOnline & LineOne.

Netscape/Internet Explorer

Complete packages for Netscape 6 (with 6.01 update) and IE 5.

Plus...

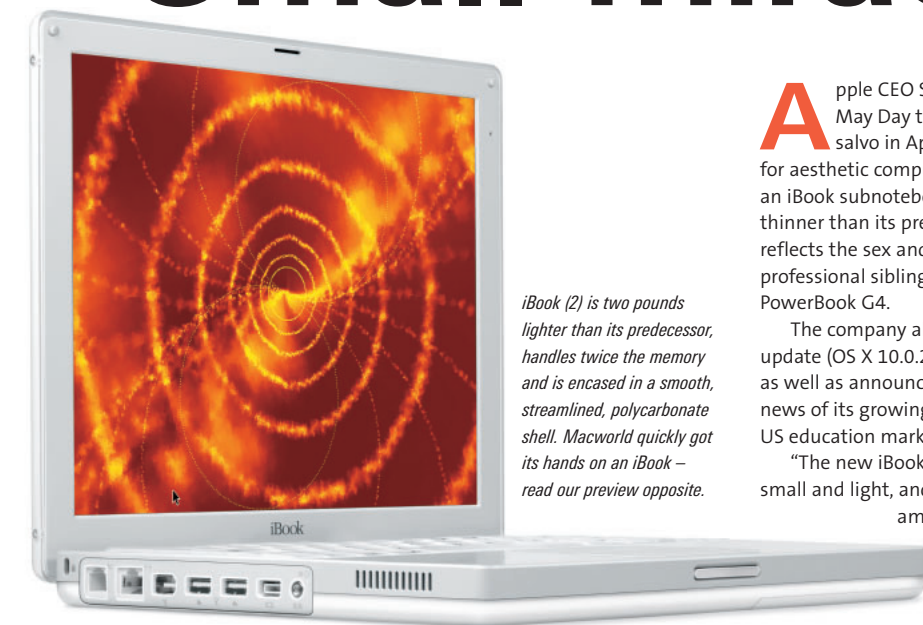
... many thanks to Simon Youngjohns for our CD icons.

SHAREWARE



Shareware is a distribution method, not a type of software. It makes fitting your needs easier, as you can try before you buy. Shareware has the ultimate money-back guarantee – if you don't use the product, you don't pay for it. If you try a Shareware program and continue using it, you are expected to register. Support shareware authors so that they continue to provide high-quality programs for the Mac.

Small miracle



iBook (2) is two pounds lighter than its predecessor, handles twice the memory and is encased in a smooth, streamlined, polycarbonate shell. Macworld quickly got its hands on an iBook – read our preview opposite.

Apple CEO Steve Jobs chose May Day to fire a further salvo in Apple's campaign for aesthetic computing, announcing an iBook subnotebook – 35 per cent thinner than its predecessor – that reflects the sex and power of its professional sibling, the acclaimed PowerBook G4.

The company also released an update (OS X 10.0.2) for Mac OS X, as well as announcing encouraging news of its growing success in the US education market.

"The new iBook is wonderfully small and light, and packs in all the amazing features you'd expect from Apple," Jobs told his audience at a special event near Apple's Cupertino HQ outside San Francisco.

Apple will market the new iBook with the slogan: "Your life. To go."

Model options

All iBook models come with a 500MHz PowerPC G3 with 256K of L2 cache. This is supplemented with either 64MB or 128MB of RAM soldered to the logic board and a single PC100 RAM DIMM slot – allowing the iBook's memory to expand to either 576MB or 640MB, depending on the amount of base RAM installed.

Apple offers the iBook in one of three flavours: For £1,099 (inc. VAT; £935 ex. VAT), the base iBook model



comes with CD-ROM drive, 10GB hard drive and 64MB of RAM. For an extra £200, you can up the RAM to 128MB and swap the CD-ROM for a DVD-ROM drive. And for £1,349, you can replace the DVD-ROM with a CD-RW drive.

You can order your top-of-the-line iBook with a combo CD-RW/DVD-ROM drive for £1,599 through the online Apple Store. A 20GB hard drive is also available as a £145 option. Special education pricing is available, from £903 to £1,313 (ex. VAT).

X burner

With update 10.0.2, Mac OS X gains full-screen iTunes visualizations (for its two million, and climbing, users), and can at last burn CDs.

The OS X update also improves application stability and provides the latest version of the Internet file transfer service (ftpd). The free update is available by automatic software update to all Mac OS X users.

In unexpectedly good news, Jobs announced a significant deal with Henrico County Public Schools in the US, which Apple will supply with a colossal 23,000 iBooks.

"This is mammoth – the single largest sale of portable computers in education ever," said Jobs.

In a final fillip, Apple revealed IDC figures showing Apple's capture of 18.2 per cent market share (in 2000) of the US education portable market – the largest annual growth in this segment of any vendor.

"The future of education is wirelessly networked notebooks," claimed Jobs.

Jonny Evans

iBook at a glance

Starting Price: £1,099 (inc. VAT)

Size: 11.2 x 9.1 x 1.35 inches

Weight: 4.9 pounds

CPU: 500MHz G3; 256K of 1:1 L2 cache

RAM: 64MB or 128MB

Graphics: 8MB ATI Rage Mobility 128

Hard drive: 10GB

Media Drive: CD-ROM, DVD-ROM, CD-RW or CD-RW/DVD-ROM

Display: 12.1-inch active matrix with

1,024-x-768 pixel maximum resolution

Ports & slots: Security, Modem,

ethernet, FireWire, two USB, VGA/RGB

out, AV out, AirPort, built-in microphone

Battery Life: 5 hours maximum

(Apple estimates)

MW



QuickTime 5 goes live

Apple has announced QuickTime 5 and QuickTime Streaming Server 3, the latest versions of its streaming-media player and server solutions respectively. QuickTime 5 (QT5) already ships bundled as the standard multimedia-player in Mac OS X. A version is now available for download for earlier Mac operating systems, from System 7.5.5 to OS 9.1. QT5 handles video, sound, animation, graphics, text, music, and 360-degree cubic virtual reality (VR) images. QT5 (for both Mac and Windows) was downloaded 1.5 million times during its first week of availability.

The user interface has been enhanced, with new audio controls, a Hot Picks guide and a QuickTime TV browser. A slider volume-control has been introduced to replace the fiddly volume wheel that controlled sound output in QT4. With QT5, Apple has made it possible to customize the appearance of its player, offering users "the power to control the unique environment in which digital media is displayed". Player windows can be any shape or size (see example above).

Apple has improved QuickTime's VR support, with "360° Cubic VR" – meaning images are more immersive. It offers support for a wider variety of multimedia file-formats (200 in all) including MPEG-1 and DV-camcorder formats such as AVI, AVR, H.263 and OpenDML. It also supports timecode tracks and MIDI standards, including Roland's Sound Canvas. Macromedia's Flash 4 is also supported.

MW

Exclusive first look at Apple's new iBook

Cute. There, I've said it. It's a terrible thing, having to describe what may well be the single greatest price, performance and design breakthrough in portables since, well, ever, with such a frivolous adjective. But, when faced with the challenge of summarizing in a single word what is both tiny and powerful, simple and clever, sophisticated and light-hearted, elegant and dirt cheap, the vast eloquence of the language Shakespeare used to sculpt his love sonnets drops into a petulant squat and tosses out "cute".

Where the PowerBook G4 stretched the envelope of portable computing to its limits, the new iBook pops a gaping hole right through the bottom: starting at just £1,099 (£1,060 for schools and students) including VAT, the white translucent pillbox portable offers a 500MHz G3, a full slate of ports, full-sized keyboard, and media drive in a case measuring 28.5-x-23-x-3.4cm and weighing just 4.9lbs (2.2kg).

That's right, Apple has just delivered a portable the size and weight of a spiral-bound notebook.

Crystal carapace

Gone are the extra-wide curves and colour-co-ordinated bumpers of the original iBook, replaced by a smooth, almost featureless white box with rounded edges and corners. In a sense, Apple has built the anti-iBook – where the original design was sassy, this iBook is simple; where the old portable screamed for attention, this one merely whispers.

The new iBook features an evolution of the computer-trapped-in-Lucite look of the G4 Cube. It's sheathed in a millimetres-thick clear plastic coating that is warm and slightly rubbery to the touch, delivering a firm grip even in small hands. The coating also adds the illusion of depth to the chassis, and a crystal corona around the edges of the screen when the clamshell is open.

Around the middle is a band of metallic grey that ties the new iBook to the 2001 edition of Apple portables. Sitting next to a titanium PowerBook, the iBook looks like it belongs – sharing such touches as the same magnetic catch and rounded metal release button on the front and a glowing crystal Apple logo, set to look upside right from behind. It is about 2cm and almost 12cm shorter side-to-side than the original iBook. The case is almost exactly as wide as its standard-sized keyboard, the same 18mm pitch and 2.7mm travel keyboard used in the PowerBook G4 (except the keys are white).

The shell does not contain any exotic metals, despite its steel-coloured girdle. The chassis consists primarily of polycarbonate plastic, stiffened by a

magnesium frame. The drive is mounted in rubber, and the case has no external latches, doors or hinges, except the primary hinge that connects the top and bottom of the clamshell case.

And even this hinge speaks of the iBook's resilience: the firm, thick, single hinge swings the screen back and behind the bottom half of the portable, lowering the overall height of the portable when open, without having to reduce the screen size – handy in a cramped economy-class seat. Apple has even added metal collars around the rubber feet on the bottom, to help protect the feet from being pulled off in a student's rough and tumble day.

According to Apple, the combination of all these design factors makes the new iBook twice as durable as the old one, despite having less "shock space" inside the case. Flat, rounded rectangular shape, smooth white coating – I've got it! The new iBook looks like a lozenge!

Mighty mouse

Packing a lot of features and performance into such a tiny shell would seem impossible. Yet the iBook offers the speed of Apple's top-of-the-line Mac portable of just a few months ago, while boasting features even the G4 titanium PowerBook can't claim.

The iBook comes with a removable media drive in one of four flavours: CD-ROM, DVD-ROM, and a first for Mac portables, CD-RW drive or CD-RW/DVD-ROM combo drive. The combo drive is available only through the Apple online store. The new drives are all tray loading; the slot-loading form factor of the PowerBook G4 is why Apple is not yet offering a combo or CD-RW drive in its high-end portable.

The iBook sports the same ATI Rage Mobility 128 graphics controller and 8MB of graphics RAM as both the PowerBook G3 and G4. Apple says it's sticking with the Rage Mobility chipset because it offers the best balance of performance and power consumption. At least for now.

Speaking of power consumption, despite adding so many power-hungry new features, Apple still claims maximum battery life of five hours for the iBook. Like the old iBook, the new battery is mounted in the bottom of the unit. But unlike the old power pack, the new battery is smaller and easier to remove (there's a single coin screw instead of two), and has those nice LED charge level indicators on the bottom.

Oh yes, the media eject button has been removed because it was too easy to inadvertently eject a disc in the old iBook design. Instead, the upper right key is the new eject button. Don't worry though, the eject button requires the user press and hold the button down for a few seconds before the disc is ejected. No accidentally typed disc eject.

The new iBook only supports video mirroring. Luckily, Apple has upped the resolution on the built-in 12.1-inch active matrix display to 1,024-x-768



"Flat, rounded rectangular shape, smooth white coating... The new iBook looks like a lozenge."

pixels. Yeah, that's a lot of pixels on a relatively small screen, but the sharpness of the new Apple display makes up for this somewhat.

Both the RAM and AirPort slot are easily accessed from under the keyboard – unlike the PowerBook G4, which requires the user remove the bottom of the portable to add an AirPort card. The iBook doesn't offer a PC Card slot, but does have a microphone built into the top of the clamshell.

And, just because Apple's industrial design group likes to add little surprises to all its designs, the new iBook sleep indicator light is on the front edge of the portable. While that might not sound all that innovative, how about a sleep light embedded under the plastic skin? The light is only visible when it cycles slowly from dim to bright.

Complete consumer solution

Portables are now the fastest-growing segment of Apple's business, and it's easy to see why: while other vendors threw features overboard to achieve small size or lower prices, Apple held out for the technology and component prices to reach a level where the company could offer complete solutions in each niche. Especially in the consumer portable space, where PC vendors rip features off their high-end notebooks to get the price down, only Apple engineered it's low-end portable to be a no-compromise low-end portable, and it shows.

The new iBook further cements Apple's dominance in portable engineering, and if our first hands-on look is any indication, the iBook will be a winner for users who want a lot for a little.

And, if the words don't fail me, I'd say buyers of the new iBook will get a lot more, and a whole lot less.

Andrew Gore

MW



Landmark for 'saviour' iMac

Apple shipped its five millionth iMac, with the news being delivered to analysts and shareholder's the day following Apple's second-quarter financial announcements call by Apple CEO Steve Jobs on April 18.

Jobs proclaimed: "The iMac has redefined the consumer and education computer, ushering in several industry firsts, including USB, FireWire, desktop movies, wireless networking, fan-less operation and world-class design."

He reaffirmed Apple's commitment to the iMac – its leading consumer machine. "I look forward to shipping our ten millionth iMac in a few years."

iMac development began a single day after Jobs' return to Apple in 1998. Jobs told his keynote audience at New York's Macworld Expo in 1998 that Apple would "sell tons of them".

The original Bondi Blue iMac began shipping in August 1998. At the time, then interim-CEO, Jobs said: "It looks like it's from another planet – a planet with better designers." It contained a 233MHz G3 processor, 32MB RAM, a 4GB hard drive, CD-ROM, and internal 56K modem, and shipped with the much-maligned round mouse. It cost £999 (inc. VAT). There has since been a flurry of different models and colours that have come and gone.

Today's iMac is available in three

configurations and costs between £799 and £1,199. Their G3 processors run at between 400-600MHz, with hard drives up to 40GB and CD-RW drives on most models. The iMac is now available in Indigo, Flower Power, Blue Dalmatian and Graphite.

iMac a design watershed

The iMac's success sparked-off a series of design initiatives from a variety of different industries. Designers of everything from cars, pens and household appliances have borrowed elements of UK-born Jonathan Ive's multi-award-winning designs. Interviewed in 1998, Ive said: "Making a loud product wasn't our goal at all. Being different wasn't a goal either. We wanted to make a thing that felt accessible, friendly, but also new. We have human features on the iMac – the handle, for instance. This was a consequence of applying our design aesthetic to the product. Differentiation was not our goal."

"One of the things you notice when people come up to the iMac is their body language. They tend to smile and pat it on its head," Ive told *Macworld*.

Jobs remains at pains to repeat that Apple's strategy is firmly centred on innovation. "The company must continue creating great products, despite continued uncertainty in the global economy," he said.



Looking to the future, Jobs admitted that the current economic uncertainty affecting the personal-computer industry is occluding Apple's vision of the future.

"Our crystal ball is foggy," he said. "We must play the hand we're dealt."

Apple sold 608,000 iMacs in the first six months of its current financial year. The product is widely credited with helping turn around Apple's fortunes, and with regaining market share for Apple in the consumer PC market – a market Apple invented in 1984 with the launch of the original Macintosh.

The future of the iMac remains a popular discussion point with Mac pundits. Many predict a wide-screen iMac, and some expect this to have a 17-inch-screen. Others foresee an iMac, with Apple's multi-purpose DVD-R SuperDrive built-in. **MW**
Jonny Evans

Toast 5 Mac update posted

Roxio has released its free, downloadable Toast 5.0.1 update, which adds iTunes and Diskburner compatibility to Toast 5.0, as well as fixing minor compatibility issues with Apple's SuperDrive. One such fix is that built-in CD-RW drives can be used as the source and destination in Toast's Copy format.

Toast 5.0.1 supports both Disc Burner and iTunes when used with Toast's own system extensions. Previously, having different CD-authoring applications installed caused extension conflicts. The updater is available from www.roxio.com

Roxio will release a free update to make Toast Mac OS X-compliant when the i/O kit ships. Toast 5.0 Titanium costs £49.



667MHz G4 scrapped

Apple has ceased production of the £1,199 667MHz Power Mac, just four months after its debut at Macworld Expo, San Francisco. Supply problems were first thought to have hampered delivery of the model – but now it's believed customers are choosing the 533MHz MP and the top-of-the-range 733MHz G4 Macs rather than the 667.

Apple did not announce the scrapping of the 667 line in a statement, choosing merely to remove the product from its Apple Store. A number of Apple watchers believe the 667MHz will reappear – in multiprocessing form. **MW**





Lynch mob leads way on OS X

With FreeHand 10 first past the post in the race to port a major application to Mac OS X, Macromedia is helping to bed-down Apple's next-generation operating system. Here, in an exclusive interview with *Macworld*, Macromedia president of products, Kevin Lynch, speaks about Mac OS X, as well as throwing light on Internet trends, and the past, present and future of the company.

Welcoming Mac OS X, Lynch said: "We are Carbonizing applications for Mac OS X. FreeHand 10 will be released shortly, and we also demonstrated Dreamweaver and Fireworks on OS X at UCON (Macromedia's user's conference)."

"We were involved in the development cycle of OS X. I think Apple's done a great job of providing developers with tools to help bring their applications to OS X. I believe OS X is sufficiently mature for others to bring their applications to it."

Lynch added: "We think that much innovation on the Web is achieved by people using Macs, and we see the Mac audience as critical to Web publishing. We're very much behind the platform and supportive of it. As a company, we think OS X is great, and that it will carry the Macintosh forward for at least ten years, perhaps more. We know we have to get our software there. It could attract

an even wider audience for the Macintosh and, as the Mac becomes used for the purpose of serving content on the Web, then we'll be there with our products too."

Speaking of Macromedia's recent merger with Allaire, Lynch had positive news for Mac Web-developers wanting to see ColdFusion on Mac OS X Server.

Customer is king

"We are influenced by what we hear from our customers. We would be very interested to hear from Mac Web-designers who want to see ColdFusion on Mac servers."

But he added: "We find that few people use Macs as servers. Mac OS X Server is a great product, and we could definitely bring our server products there. But it's all about whether people are using that product. If enough people use it, we'll bring our products to it."

Those wishing to contact Macromedia about ColdFusion for the Mac should send their thoughts to clw@macromedia.com.

Lynch also discussed the evolution of the Internet – calling XML (Extensible Markup Language) a "critical technology", adding that it is essential for designers to keep up with developments because of the mountain of rich Web-media. "When we began, there was no widely used

player for accessing rich media over the Internet. Since then, we've worked hard to popularize Flash, and we now have a 96 per cent distribution for Flash players across Web browsers. That's over 330 million people globally using Flash players today. It's incredible.

"We'll continue to innovate with Flash. Flash 5 supports XML and the creation of Flash-based user interfaces. We are working to create the tools to build great user-interfaces over the Web. I think rich-media players is an area where innovation is happening now, in terms of expression online."

Lynch slammed Quark president and CEO Fred Ebrahimi's claim – made in his Seybold keynote – that getting content onto devices such as phones is "stupid". (See page 26).

Ebrahimi wide of mark

Lynch said: "I don't think it's stupid at all. It's critical that people have strategies to get content onto multiple devices. Over the next few years, there'll be more of these than there are PCs connected to the Web. If you can't get your content onto these devices you are missing out on the majority of the audience. Everyone can see that, except Fred Ebrahimi."

"We're working on supporting the concept of dynamic content for the Web across lots of different devices."

OS X, and insists that life on Web is 'only beginning'

The publishing industry is evolving, believes Lynch, raising new challenges and inspiring new solutions.

"The way we author Web content today is not dissimilar from the monks writing manuscripts by hand all those years ago. There's got to be a better way to create content on the Web – particularly as the quantity of Web pages grows rapidly.

"IDC estimates that the number of pages will double to nine or ten billion in the next couple of years. I think there'll be a fundamental shift, where sites will be a combination of pages written by hand, but that a portion of these sites will be dynamic, delivering content through templates."

Dynamic sites the key

"The dynamic creation of sites is what the merger with Allaire is about – it's bringing in the software that will let people build content and manage sites dynamically in a way that they understand and that they can do efficiently and cost effectively."

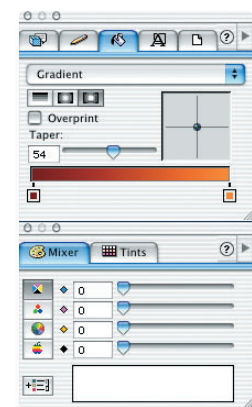
He added: "With a product like UltraDev, which runs on Macs as well as Windows, we're working to ensure the UltraDev environment can be used to make great content and Web sites. This may include connecting to the ColdFusion server, which can output DHTML (Dynamic HTML). We're working to make that integration even better. We're going to include lots of new features that will make the combination of these servers and the authoring experience great, including on the Mac."

Lynch also enthused about the future of 3D on the Web, which has been buoyed recently by news that Alias|Wavefront's move to Mac platform, with Maya for OS X, and also by the adoption of broadband Internet access.

"We're excited about ShockWave 3D. There's been many attempts to make 3D work on the Web, and we've tried to figure out why it's failed to get traction there. I think we've managed to address some of those issues, and have worked with Intel to create a great technology that allows effective 3D over low bandwidths."

"The other hurdle is that there hasn't been much co-operation between 3D vendors. Before, we saw it as critical to get the industry together to agree a common format, and we achieved what I believe to be unprecedented co-operation among vendors."

"Approximately 80 per cent



News at X

Macromedia is in the vanguard of major developers for OS X, following the imminent release at press time of the Carbonized version of FreeHand 10.

Macromedia blazes Web trail on fast 3D

Macromedia CEO Rob Burgess told crowds at its user conference – UCON 2001 that the company will open the floodgates for dynamic Internet-content following its merger with Allaire.

He said: "We're looking forward to showing our developer community our vision for making Web design and development more accessible, and with even better results."

The company also revealed that Alias|Wavefront has joined the many 3D-application developers to deliver an exporter plug-in to take Maya-created content into Shockwave 3D format. Shockwave offers cutting-edge 3D over limited bandwidths. It does this by seizing the spare processor

power of the downloading Mac. The company has also released a beta version of its Shockwave 3D Player, and announced that its multimedia-authoring software, Director 8.5, is shipping in the UK for £949, and can create Shockwave 3D content. Meanwhile, the company's Carbonized FreeHand 10 will ship later this month.

FreeHand 10 will cost £279. Users of previous versions can upgrade for £99. The Flash 5/FreeHand 10 Studio will cost £399. Macromedia expects to make the product available in May.

Squaring up

This still from a Shockwave 3D animation, Lode Runner, is one of many examples available at www.shockwave.com



of people who create 3D products can output to our format. Moving output from Alias|Wavefront and Studio 3D Max to Shockwave will transform the way people express themselves. 3D interactive-guides can provide a depth of learning 2D can't reach."

Both Lynch's – and Macromedia's – vision is focused on usability. "Ever since Macromedia began trading as MacroMind in the early 1980s in Chicago with our first product, VideoWorks, we've seen the user experience as central."

Web future needs work

Assessing the long-term future of the Internet, Lynch remains pragmatic, despite the dot-com carnage of recent months: "What we have now is a return to realism and practicality."

"We are only seven years into the Web, and are still trying to figure out how people can express themselves in ways they couldn't do before. We still have a lot of experimentation to do, and decades of work yet to come."

Lynch also hinted that a future Macromedia product, Vermilion, will "address the issues we see in terms of teams working together". Macromedia has published information on its site (www.macromedia.com) that examines these issues, based on interviews with hundreds of developers.

"There's a Web-site production-techniques section now. It's another way we're helping our developer community build effective sites."

Returning to the Mac, Lynch – who first developed for the Mac in 1984 – said: "We're making sure we provide the best products in the industry on the Mac, and will continue doing that."

"We think the custom's there, the market's strong, and much of the core energy for innovation on the Web is coming from the Mac community."

Of the industry in general, Lynch said: "I think that people in the software industry are very motivated to change the world – to improve people's ability to communicate. MW Jonny Evans

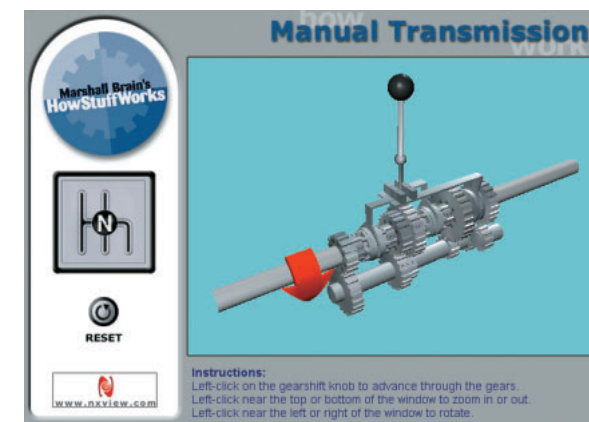
Pedal power (below)

This on-bike dynamic user-interface was created with Flash 5.



Geared up for learning

Macromedia's 3D-authoring apps makes possible effective 3D interactive-learning, such as this how-it-works educational site.





OS X updater a developer fillip

As Macworld predicted last month, Apple has released the Mac OS X 10.0.1 updater for early adopters of its next-generation operating system. The updater improves support for third-party USB devices, boosts and improves Classic compatibility and improves the overall stability of the OS. It also adds support for the popular open-source Secure Shell service.

Secure Shell logs into other computers over a network. It can execute commands in a remote machine and move files from one machine to another.

The 10.0.1 update also improves OS X's functionality with iTunes. It was originally made available using the Software Updates Preferences command available using Mac OS X's System Preferences. The update was then released to iTools users and made available for download direct from Apple's Technical Info Web site (<http://ti.info.apple.com>). Apple says users should install another update released by the company in recent weeks – Software Update 1.3.1 – before installing OS X 10.0.1. This update is also available from Apple's Web site.

Update 1.3.1 enhances the Mac OS X Software Update engine. It improves its ability to work with proxy connections by adding interface improvements and enabling

resumable downloads. Apple is also hosting Epson's Printer Driver Update, which lets Epson's USB inkjet printers work with Mac OS X.

Developers are moving swiftly to make their products compatible with Mac OS X. The OS X pages of Apple's own Web site are regularly updated.

Drivers in the bag

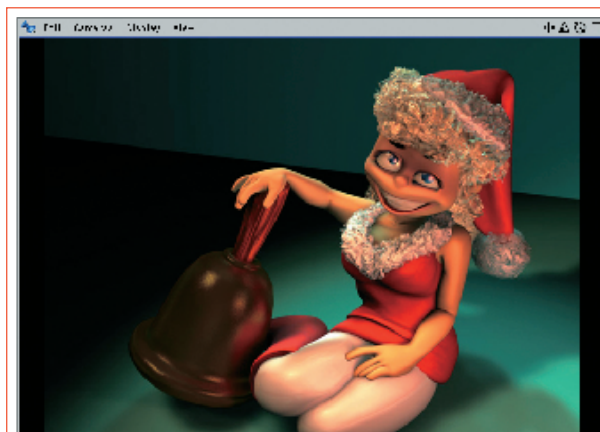
Wacom plans to release Mac OS X beta drivers for selected products in June. It hopes to release OS X-native software for the Intuos line of tablets and the Graphire mouse and pen set, with more drivers to follow.

Dantz has already released a public beta of its automated back-up utility – Retrospect for OS X – and made it available for download from www.dantz.com.

Bare Bones Software has ported BBEdit 6.1 OS X. This is the first version of the HTML and text editor to run natively on the Apple's next-generation operating system. This version takes advantage of several OS X features, including integration with tools native to the Perl programming language. BBEdit 6.1 costs £99.

Qualcomm has released a beta version of Eudora, its email client for OS X. It's available for download from Eudora's beta-download site, www.eudora.com/betas/.

Also with a focus on the Internet,



Maxon Computer's Cinema 4D XL Version 6 is a professional 3D-animation tool with a flexible interface, allowing users to choose between Mac OS 9 and OS X appearances, as well as the default look. The user interface is also customizable. Maxon claims its application will deliver workstation performance on consumer-level Macs. The currently shipping version costs £1,187.

independent developer Brian Clark has released a Carbonized version of Thoth, a \$25 newsreader application.

ConceptDraw Viewer 1.0 for Mac OS X is a free application from Computer Systems Odessa that views and prints ConceptDraw documents and files without the ConceptDraw application.

Softmagic has launched Project-M, a \$699 publishing suite of Cocoa-based applications, optimized for the new operating system.

OS X products blitz

Tenon Systems has released XTools 1.0, its X Windows server for OS X. X Windows is an open, cross-platform, client-server system for managing a windowed graphical user interface in a distributed network and costs \$199.

MacPopUp 2.5b from the Kanex Group is also available now. It's a beta version of the cross-platform instant messenger and offers an Aqua interface with pre-emptive multitasking. Available for download registration costs \$10.

PowerLogix has released beta versions of its cache-enabling utility, for upgraded Macs, Cache Control X.

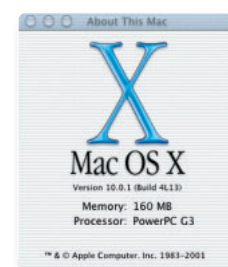
QPict has released its OS X beta, Media Organizer 5.0b2. It will organize multimedia files, including pictures, fonts, MP3s and movie clips.

Aladdin has released Spring Cleaning version 3.5.1 for Mac OS X. This offers 13 utilities that will clean and organise hard drives. The update is free to registered 3.5 users, otherwise it costs £34.

Dominique Fidèle

Paving the way

Apple's Mac OS X 10.0.1 update (top) is available for download now. Third-party manufacturers are following suit, with OS X drivers now available for Epson's inkjet printers, such as the StylusColor 880, (middle). Wacom will also begin releasing beta OS X drivers for its Intuos and Graphire art-tablets, such as the Graphire Mouse and Pen set (bottom)



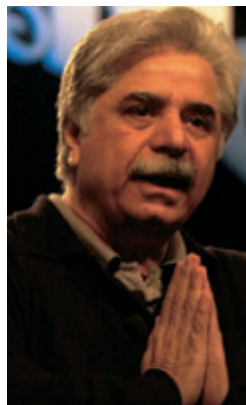
X file-buster

GraphicConverter 4.0.7 is available now for Mac OS X and the Classic environment. It's a file-manipulation utility that opens and converts 145 graphics file-formats. By taking advantage of OS X's pre-emptive memory, it's better than before at opening and converting large graphics files. It supports drag-&-drop, and offers basic image-editing utilities. It also has batch-conversion features, will create optimized Web images, and let advanced users alter data resources embedded into files.





Publishing's sight of future



Head to head
Quark president and CEO Fred Ebrahimi (above) and Adobe CEO Bruce Chizen (below) used the Seybold Seminars to outline their visions of publishing's future.



Adobe CEO Bruce Chizen and Quark president and CEO Fred Ebrahimi used their Seybold Seminars keynotes to deliver to the cream of the publishing world their contrasting visions for the future of the industry.

At the seminars, held from April 8-13 in Boston, Chizen outlined a vision of network publishing that will be guided by Adobe's PDF (Portable Document Format), as well as by other Adobe products. He closed his address with a plug for the company's new network-publishing move, designed to help deliver content "anytime, anywhere, on any device".

But Ebrahimi rejected Adobe's focus on multifarious devices for content. He described the concept as a "stupid idea", adding that he doesn't "give a damn about showing a movie on a mobile phone". Quark's slant on integrating the Web into publishing rests on the concept of a "world-wide workflow". Quark Active Publishing Server (QuarkAPS) was introduced at the show. This is a client-server solution that lets content creators update and modify documents using a Web browser. A Mac OS X Server version of this will ship later this year. The Quark CEO also underlined his belief in the market for paper-based publishing: "Publishing on paper will continue for the next 20 years – it's still profitable."

Meanwhile Adobe's Chizen called network publishing the "third wave of publishing" – following the introduction in the 1980s of both the Mac and Canon-derived laser-printer engines, as well as the 1990s'

migration to Web publishing. Chizen stressed that, in the network-publishing era, creative professionals must deliver similar or identical content across multiple media. He explained the challenge of redundant content-creation.

Content delivery

"Often, different workgroups develop similar content for different media," he said. "Another problem facing content creators is an ever-increasing user demand for personalized information. Adobe is working to develop one serial workflow to create, manage and deliver content using the Internet as the backbone of everything we do, he said.

Chizen showed an alpha version of Adobe's page-layout software InDesign running on Mac OS X.

Adobe vice president Shantanu

Narayan stressed the importance of agreeing on and using Internet standards, including XML (Extensible Markup Language) and Digital-Rights Management. "It's about simplifying the process and giving designers choices," said Narayan.

Quark also revealed plans to widen its beta-testing programme for QuarkXPress 5.0. "One of the mistakes we made was shipping XPress 4.0 when it wasn't ready. We won't ever do that again," Ebrahimi said. "When the users decide it's ready to ship, that's when we ship."

Following his keynote speech, Chizen told the media that Adobe's focus on network publishing and e-books would not hurt the traditional print publishing world. "Books are not going away," he said. "They will continue."

Peter Cohen



Screen grab

Visitors to the Adobe booth at Seybold in Boston enjoyed a series of hands-on seminars.

Quark gives XPress 5.0 a run out

Quark demonstrated some of the features of QuarkXPress 5.0 at Seybold.

Quark's director of product management, Jürgen Kurz, indicated that QuarkXPress 5 will "ship when it's ready", estimating a further six to nine-month wait before the desktop-publishing standard ships.

Quark's product-

development ethos is to support open standards such as scaled-vector graphics (SVG) and extensible mark-up language (XML). QuarkXPress 5.0 is being built to become the content-creation tool both for print and online.

XPress 5.0 users may export pages as XML, HTML, Flash (.SWF), or add

rollovers and hyperlinks, even while retaining text-like attributes such as word search. Text in XPress 5.0 will be saveable as an image, eliminating the need to use a graphics program to style text.

At Seybold, QuarkXPress product manager Brett Mueller opened XPress-generated Web pages in

Macromedia Dreamweaver.

While XPress's ability to generate Web pages is impressive, Quark said complicated Web pages will still require a dedicated Web program.

Quark will release a Mac OS X version of XPress 5.0, after the Classic and OS 9.1 versions of 5.0 ship. MW
Jonny Evans



NAB a good spot
The crowds flocked to this year's NAB in Las Vegas, where the emphasis was on convergence in the broadcasting industry.

Broadcast is hot news

The National Association of Broadcasters event – held from 21-26 April in Las Vegas – focused on the impact of convergence on the world of broadcasting.

As digital technology becomes all-pervasive, more opportunity exists for established TV broadcasters to cast content online, and for online businesses to repurpose content for TV. NAB saw solutions developed to provide technological stepping stones to achieve this.

Minerva introduced its hardware-based VNP-40 solution. This 'encoding appliance' can stream video to any desktop computer running a QuickTime or MPEG-4 compliant player. It supports a number of video formats, including QuickTime. It also integrates Kasenna's MediaBase video server-solution, and makes it possible

to deliver VHS quality video over a broadband network. The solution integrates with existing server-side Internet appliances, and opens the doors to a future of video-on-demand over IP at full-screen rates.

Web-video move

Matrox announced its service for video creators, Matrox.tv. This video-hosting Web site exists for registered owners of the recently announced RTMac video-editing platforms.

Matrox' vice president of sales and marketing, Spiro Plagakis, said: "Our clients want to exploit the Web to deliver their stories."

Sorenson Media previewed Vcast, its video-focused online service. Users can register online and send live or on-demand video to anyone in the world. Matt Cupal, Sorenson's vice president of business development,

said: "Vcast offers a personal broadcasting service that lets people stream video affordably on the Web."

Standards are evolving too, with Apple announcing QuickTime 5 (see pages 20-21), as well as demonstrating QuickTime 3 Streaming Server Public Preview.

Also, the Fraunhofer Institute – developer of the MP3 standard – and Telos Systems demonstrated their improved MP3 codec.

They called this: "An advance as important as was the introduction of MP3 to the broadcast and Internet worlds seven years ago."

Apple's SuperDrive spawned imitators at NAB too, with LaCie and Panasonic announcing external versions of a combined DVD/CD-RW unit, based on FireWire and costing in the region of \$1,000. MW

Jonny Evans



Maya takes centre stage

Alias|Wavefront announced Maya 4 at NAB. Maya is tool of choice for professional 3D-animators in the film and broadcast industries. Above are two stills taken from *Enemy at the Gates*, depicting the siege of Stalingrad. The top image is pre-Maya and the bottom one post-Maya. Three flavours of the 3D-animation and visual-effects solution are set to ship – Maya Unlimited 4 (£13,560), Maya Complete 4 (£6,360), and Maya Builder 4 (£2,580). Each version offers different levels of functionality. The OS X version is due in June.

Media 100 in product flurry

Media 100 was involved in a slew of releases at NAB, including Media 100i 7.5, MediaPress Pro and an accelerated version of Cleaner 5, called Cleaner XL. The company also announced plans to support Mac OS X.

Media 100i is described as the world's first interactive-streaming production system. It gives content creators and Web professionals the power to capture broadcast-quality video, to edit and add effects, to author interactive commands in video, and to encode to any streaming format. 100i delivers high-quality images as uncompressed digital-video and enables editors to edit video, process effects, and output content in a variety of formats for both

broadcast and online use. Media 100i is available in four versions, with different levels of functionality, at prices between £2,195 and £13,195.

Charlie Mascari, senior product manager for Media 100, said: "We're working with Apple to make Media 100i OS X-ready so users can enjoy its media-rich capabilities."

Media 100 also announced its MediaPress Pro family of real-time MPEG-2 encoding systems for the Mac, consisting of Pro and Pro SDI models. The Serial Digital Interface (SDI) version has already been endorsed by Apple for use with DVD Studio Pro, its DVD-authoring solution.

Prices for these products start at £1,999. MW



Firmware RAM-crash peril

Apple's recently-released firmware updates for slot-loading iMacs, FireWire-equipped PowerBook G3s and iBooks, and AGP-equipped Power Macs and Cubes may disable some third-party RAM modules, Apple has confirmed.

Apple says the 4.1.7 and 4.1.8 firmware updates "incorporate a number of fixes that dramatically improve system stability and performance".

They were released to improve FireWire-disk operation, networking features, and to consolidate system stability for machines running Mac OS 9.1. In OS X, OS 9.1 is the Classic environment in which to run non-Carbonized applications.

Compatibility check

In a note on its Technical Information Library (TIL), Apple confirms that both updates include a new check that "validates whether the installed memory in the computer is compatible".

Apple has distributed detailed specifications about the requirements for Apple-compatible RAM among memory vendors. The side-effect of the firmware updates are that memory modules found to be out of specification are disabled when it's installed.

Apple said: "With this set of firmware updates, we are enforcing adherence to published RAM specifications.

"RAM that falls outside of specification can cause stability issues with Apple hardware and software, including Mac OS X. If out-of-spec RAM is installed in a Macintosh computer, the system cannot be



expected to perform reliably."

It is thought that Apple's next-generation operating system, Mac OS X, is more stringent in its RAM requirements – possibly because at times, the computer may find itself running some applications in Classic mode and others under Mac OS X.

Anderson shelter

Mac developer Glen Anderson was first to identify the pitfalls facing Macintosh users with third-party RAM modules installed.

Prior to Apple's confirmation of a problem, he released a utility called DIMMChecker, which helped identify

out-of-spec RAM before installing of the update.

Anderson has also developed a utility called DIMMFirst Aid, which rectifies the problem. A copy of it is on the June cover CD. Anderson advises testing your Mac's memory modules with DIMMFirstAid. If they pass, it's almost certainly safe to update your firmware. If not, then contact your memory vendor.

Apple confirms that the problem is connected with timing: "Check with your memory vendor that the RAM module supports the correct timing modes."



MW

Dominique Fidèle

Price of memory in a state of flux

Things remain bright for Macintosh users looking to buy extra RAM, with memory prices remaining volatile.

Jonathan Cole, chairman of Computer Warehouse, said: "RAM has hit the bottom in terms of pricing so now is the time to buy. It was low about a month ago

because there were large stocks to be shifted."

Robert Allen, European technical support manager with memory manufacturer Kingston, said: "The demand for RAM is so low at the moment that anything is likely to set its price fluctuating."

SRS Systems' Sanjay

Kumar said: "There hasn't been too much price fluctuation. It has only been going up and down by a pound or two."

Katherine Swallow, sales manager at memory vendor Gasteiner, said: "Prices change according to chip availability in Taiwan."

The RAM market has

seen prices fall to record lows in recent months, as manufacturers have been forced to sell stockpiles following disappointing sales of personal computers. There are signs that the market is stabilizing, and memory prices may hit an upswing.

MW

Dominique Fidèle



Softline deal is games boon

On the cover CD...

A demo version of *Cro-Mag Rally* is featured on this month's cover CD. It stars Brog the caveman racing through the Stone, Bronze, and Iron Ages in primitive vehicles, including the Bone Buggy and Trojan Horse.

Cricket fans can also toast the new season with *Cricket*, a title from independent UK developer, Graham Randall.



Features include a complete set of international teams, a replay camera, bowling and batting averages and team-performance statistics. The full game costs £15 – or £7.50 for an upgrade for registered users of previous versions.

(homepage.ntlworld.com/grandall).

Also on the CD is a stand-alone version of *Rubicon Network/Solo Carnage Pack*, including 51 maps that didn't make it into the final game.



UK Mac-gamers face a flurry of hot games in coming weeks, after top US games publishers and Europe-based games-distributor Softline inked a deal that promises to bring games to the European market faster than ever before.

Following the deal, Softline will be able to output games in Europe, which will significantly reduce shipping times here.

Already available are Aspyr's Tony Hawk's Pro Skater 2 and Escape From Monkey Island. Set to a hip-hop and punk soundtrack, Tony Hawk's Pro Skater 2 is an extreme recreation of pro skating. Escape from Monkey Island is a 3D nautical adventure set amid eye-catching backgrounds. A £25 Mac version of popular TV game show, *Who Wants To Be A Millionaire*, is also available.

Epic Interactive's *Earth 2140* (£25) is available now. A demo of the competing-continent game was carried on *Macworld's* April cover CD.

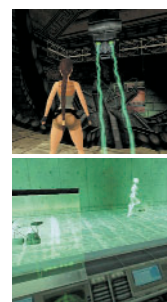
Early June will see the release of American McGee's *Alice* (£34) and MacSoft's *Vampire*. *Alice*, built on the Quake III engine, is a good versus evil shoot-em-up version of Lewis Carroll's *Alice in Wonderland*. The title has won praise in the PC press for the quality of its visuals.

Feral Interactive's cult title, *Tropico*, will also be released shortly. The game casts the gamer as president of a 1950s banana republic, given 20 years to turn the island and its population around.

Mac OS X is firmly on the agenda of many Mac-games developers. Westlake Interactive's president, Mark Adams, told *Macworld*: "We're working on OS X versions of some of our current projects, including *Tomb Raider Chronicles* and *Alice*. These will support OS X straight out of the box. We're also looking at a native version of *Pro Skater 2*. This will probably be available as an updating download. Nearly all of the games Westlake ships this summer and beyond will support OS X natively. We were pleased with the first release of OS X, and we've been working with Apple to fix up some of game APIs that didn't quite make it into the GM version of OS X."

Westlake is also working with games publishers, finalizing arrangements to create OS X updaters for classic titles that could include *The Sims* and *Unreal Tournament*.

■ The E3 2001 event, being staged from May 17-19 at the Los Angeles Convention Center, is also expected to see a number of Mac OS X-only



Games galore
Games due to ship to the Mac include *Alice* (above) and *Tomb Raider Chronicles* (left), both of which will support Mac OS X out of the box, says Westlake Interactive.

games announcements. The show is the world's largest event dedicated to interactive entertainment – and Apple will be exhibiting.

Jonny Evans

MW

Mac gamers' prayers answered

The playing-at-god fantasy game *Black-&White* is being developed for the Mac, and will be published by emerging UK games-publisher, Feral Interactive.

The game features eight tribes living on Eden, an unspoiled paradise of small islands. The tribes work the land, fish the sea and build homes. The one thing they lack is a God. But guess what? That's your job.

Players gather strength from people's worship, and can rule as good or as evil entities. The decisions players make as gods affect the development of landscapes and populations. Other tribes must be impressed in order for your god to attract more followers.

Gods make creatures in their image, in order to either help the people – or kill and eat them. Creatures must be taught what to eat, where to sleep, how to help or hinder tribespeople and how to fight. Creatures can even be shared over the Internet. Other game features include a



unified message system that can send and receive email and text messages. Contact names can be imported and assigned to individual tribespeople who will personally deliver messages. Real weather can also be imported from the Internet into Eden.

Pricing and the release date for the Mac version of the game were unavailable as we went to press.

MW



Apple rides the PC storm



Business briefs

- **Fantom Drives is acquiring MicroNet Technology's assets, patents and copyrights. MicroNet's products include the SANcube X-stream.**
- **Thomas Lot, retail general manager of Apple Europe, has resigned, reports claim.**
- **Nvidia has completed its \$55-million cash purchase of a number of 3dfx's graphics assets, including its patents, patent applications, trademarks and brand names.**
- **Adaptec has approved the spin-off of the company's digital-media subsidiary, Roxio.**
- **Motorola has reported its first loss-making quarter for 15 years, losing \$206 million compared to earnings of \$481 million for the same quarter last year.**
- **Adobe and Amazon.com have announced a deal to extend the availability of Adobe's Acrobat eBook Reader and eBook titles through Amazon.com's e-book store.**
- **Bill Gates is no longer the richest man in the world, claims the Sunday Times' Rich List 2001. His position has been taken by Sam Walton, owner of Walmart.**

Defying analysts' expectations, Apple announced a \$40 million profit for the second quarter of 2001. This translates into 12 cents per share, down from the 64 cents the company posted in the same quarter last year. Analysts' predictions ranged from between 1.1 cents and seven cents per share.

Revenue for the quarter, which ended on March 31, was \$1.43 billion, down 26 per cent year-on-year. Including non-recurring items, Apple posted income of \$43 million. These items – not part of the profit equation – included an after-tax gain of \$89 million from the sale of 23 million share of ARM Holdings, and an after-tax charge of \$86 million to account for equity investments.

Apple shipped 751,000 Macs in this period. This included sales of 134,000 titanium PowerBook G4s – a 173 per cent increase in PowerBook sales. Blue Dalmatian and Flower Power iMacs accounted for approximately 28 per cent of total iMac sales, with 48 per cent of Apple's sales coming from its international markets.

"Apple returned to profitability in this tough economic climate by launching several new products," CEO Steve Jobs said.

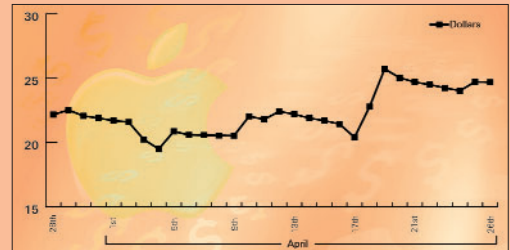
Fred Anderson, Apple's chief financial officer, said: "We feel very good about delivering solid profitability, while reaching our goal of four weeks of channel inventory ahead of schedule. We expect to generate \$3.2 to \$3.4 billion in revenues in the second half of the fiscal year."

The company expects to maintain gross margins at around 27 per cent, and has already achieved its target to reduce inventory levels – stock on hand and unsold – to four weeks. Apple's sales of professional desktops rose by 45 per cent, but G4 Cube and iBook sales fell 59 and 45 per cent respectively.

Apple sold 55,000 iBooks and 12,000 G4 Cubes during the quarter. The company's professional desktops became almost as prevalent as iMacs in the quarter, with 250,000 sales, compared to 300,000 iMacs.

Anderson said: "The thing is, 28 per cent of iMac owners are first-time buyers, and 15 per cent migrate from Windows".

CFO Anderson agreed that Apple's G4 Power Macs had been "well received by our pro customers". He expects



sales of these systems to increase now that supply isn't "so constrained." One third of Apple's overall sales take place through its online Apple Store.

Anderson warned that the Pioneer DVD-R drives used in 733MHz Power Macs remain scarce, but added that Apple expects order backlogs to be fulfilled "by the end of June".

Apple continues to invest heavily in research and development (R&D), despite reports – subsequently denied by Apple CEO Steve Jobs – that it had dismissed the R&D team responsible for developing the G4 Cube. It spent \$101 million on R&D in the current quarter, and \$203 million during the current financial year. In the first six months of its last financial year it spent \$182 million.

Education a priority

Focusing on education, Anderson said that Apple expects to complete the all-stock PowerSchool (see Business News May 2001) acquisition by the end of the month. Hinting at Apple's strategy to regain educational market-share, he said it's "taking a more solution-orientated approach to education", and that the company is "going back to basics and committing more resources" to regain market share in the US education market.

Apple's educational presence was hit last year by the process of bringing its education sales in-house. Many of its competitors, principally Dell, benefited, as the move coincided with the market's summertime peak. Apple has now established a 600-strong in-house education sales team.

Jonny Evans

MW

Corel on-track with X goods

Corel remains on target to deliver Mac OS X versions of its products this summer. The company will release Bryce 5 in June, with Painter 7, CorelDraw 10, Kai's Power Tools 7 and KnockOut 2 following soon after.

Greg Wood, communications manager for Corel, also refuted recent reports claiming that Microsoft is divesting itself of its Corel holdings (Business News, April 2001). He confirmed that Corel had registered shares in connection with Microsoft's \$135 million investment in the

company, but denied Microsoft has sold its interests in Corel. Corel has registered 24 million common shares, to underlie the preferred shares held by Microsoft as part of the \$135 million alliance. Common shares give full voting rights, while Microsoft's preferred shares don't. The common shares have been registered so that, should Microsoft sell its preferred shares to a third party, that party will have the option of converting them to common shares to sell them on.

Wood explained: "Neither

Microsoft nor any of its affiliates or associates are entitled to convert the preferred shares to common shares. This means neither Microsoft nor any of its affiliates or associates may own common shares of Corel."

Contrary to the April news report, Wood said that Microsoft retains its stake in Corel, but has no control over the company. Wood also confirmed Corel was co-operating with the US Department of Justice in terms of the DOJ's continued investigation of Microsoft.

MW



Dazzle gives DV Hollywood spice

Dazzle is shipping the Hollywood DV-Bridge in the UK. The £255 analogue video-to-digital video converter allows VHS to be changed to digital. Alternatively, the Bridge will convert digital-video signals to analogue. It also helps when splicing together video from many differently formatted sources.

It links up to TVs, VCRs and DV camcorders, as well as Macs. Hollywood DV-Bridge will also convert between image formats without using the computer, so the Mac's processor power can focus on editing the data and creating new movies.

It will let footage be viewed on a TV monitor while it's being transferred to the Mac, and is compatible with both PAL and

NTSC video formats. The Bridge was first demonstrated at Macworld Expo, San Francisco in January.

Connected to the Mac by FireWire, the Hollywood DV Bridge offers composite and S-video in and out, and two channels (left and right) of audio input and output (I/O).

It requires a 300MHz or faster G3 or G4 FireWire-enabled Power Macintosh, Mac OS 9.0.4 and 64MB of RAM. It ships with a six-foot FireWire cable and a guide.

Dazzle's Hollywood DV-Bridge is compatible with most leading video-editing solutions, including Final Cut Pro and iMovie 2.

Dazzle, 0118 932 1613



16x CD-RW ships

Formac has launched its Designer Series CD-RW drives in 16, 12 and 8x speeds. These FireWire CD-RW's ship with Adaptec Toast 4.1 and draw their power from the host Mac. The Designer Series 8x-8x-24x costs £186. The 12x-10x-32x costs £220, and the top-of-the range 16x-10x-40x is £255. Formac, 020 8533 4040



OS X webcam app

Catalunya Disseny Informatic (CDI) has released iCamMaster 1.8.5. Available in Mac OS X and pre-OS X versions, iCamMaster is designed to collect webcam bookmarks and view them using a Web browser. Once collected, webcams can be placed on a desktop. This version offers faster downloads, and updating is faster and more stable. Registration is \$20. CDI, www.catdis.com



CreoScitex scanner in the frame

CreoScitex has debuted the EverSmart Select, its professional-level scanner that can deliver over 45 scans per hour – based on an original image of 6-x-7cm being enlarged 250 per cent at 300dpi. It will also scan 35mm transparencies in batches of up to 70.

This high-end machine has a maximum resolution of 5,600dpi. It will enlarge an image up to 3,800 per cent over the entire bed. Colour depth is 48-bit – or 16-bits for each colour in RGB.

The reflective and transparency scan area is 305-x-432mm. EverSmart Select will ship this quarter and costs £21,500. It requires a 450MHz blue-&-white G3 or later, Mac OS 9.x, 155MB of RAM and a SCSI connector. An upgrade kit will be available later this year to replace the SCSI with FireWire connectivity.

CreoScitex, 01923 470 500



Search for lost files over

Search and Rescue 3.0 will recover lost data directly from a Mac's RAM. It can recover data lost as a result of a crash or saving error. The extension will locate all the data in memory containing user-definable words. It can even target the search onto the portions of RAM used by a particular application. It costs \$15.

Tom Riley, www.kagi.com/tjriley



Cashbook correction

The release of Cashbook Manager from Guildsoft (see Product News, page 39, *Macworld*, May 2001) has been delayed as the company faces unexpected "development issues". Guildsoft is taking a note of potentially interested customers. It apologizes to *Macworld* readers. Guildsoft, 01752 895 100

Adaptec card adds USB 2.0 option

Adaptec is shipping USB2connect, its USB 2.0 solution for the Mac. The emerging USB 2.0 standard supports transfer speeds of 480Mbps – forty times faster than the current USB 1.1 standard.

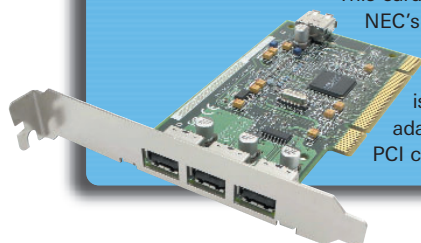
This card is powered by NEC's USB 2.0 controller technology.

USB2connect is a host bus adaptor mounted on a PCI card. Its three USB

2.0 ports are backwards-compatible, so Macs can also use USB 1.1 products. Adaptec's solution ships with a five-year warranty.

The company will make USB 2.0 drivers available for download from its Web site (www.adaptec-europe.com) as they become available.

The card automatically configures itself for each device, so all users have to do is install the USB2connect card, and the system is immediately ready to support USB devices. It costs £49. **Adaptec, 01276 854 500**



continues page 40

Apple updates

Disk Burner 1.0.1 lets users master CDs using desktop icons, rather than through a disk-burning application. It supports the drives pre-installed in current Macs. The solution only records single-session discs, so unused space is lost once a burning operation is complete. This International-English version also supports a number of external CD-R drives, including models from Pioneer and Sony.

Z-Macintosh Manager 1.4.1 will manage client computers with Mac OS 7.6.1 to 9.1 installed. The upgrade offers security and utility improvements for client-server Mac networks.

Apple has also released a collection of downloadable AppleScripts that will import email to Apple's Mac OS X Mail application from Microsoft Outlook Express 5 or later, Office 2000's Entourage, Claris Email 2.0 or later, Eudora 5.x and Netscape Communicator 4.0 or later.

Links to Apple updates are available from www.macworld.co.uk/updates. Apple does not permit third-parties, such as Macworld, to distribute its software updates.

Third-party updates

Virtual PC 4.0.2

This update improves Java stability and file sharing, and works better with third-party processor upgrade cards. Printing has been improved as has

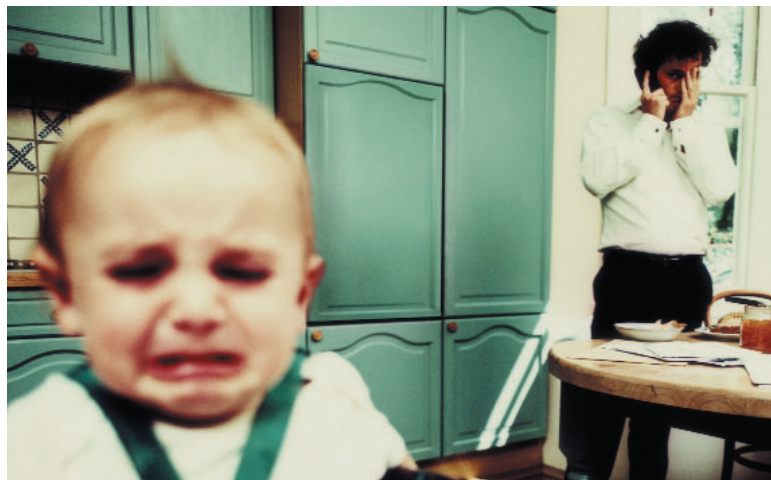
Norton AntiVirus support.

NetBarrier 2.0.3 and VirusBarrier 1.5.3

The NetBarrier update offers a workaround for a bug within the ATI Graphic Driver released with Mac OS 9.1. The VirusBarrier update fixes an unmapped memory error bug.

TypeStyler 3.7.2

This update makes TypeStyler fully compatible with Mac OS 9.1. It no longer needs the URL Access extension to be installed, which prevented users with older Macs from using the new version.



A cry for help

The Image Bank has added to its Work image-collection. The image library includes pictures of people working in industrial, information-technology, telecommunications, broadcasting and the home. A catalogue of the images is available. The collection is also available for view at www.imagebank.com. The company offers images in other categories, including Life, Sport, Nature, Travel and Ideas. Images start at £250 per use, though this price varies depending on print run.

The Image Bank, 020 7428 5100

Projector giants neck and neck

Projector stats

Epson's EMP-50 has a wireless remote control, a contrast ratio of 300:1, component video and HDTV interfaces, keystone correction of -15 to +15 degrees, and projects at distances up to 11 metres.

Epson and Mitsubishi Electric have both released projectors – the EMP-50 and the LVP-X80U respectively. Epson's £1,799 EMP-50 weighs 3.1kg and offers an SVGA resolution and a brightness of 1,000 ANSI lumens. It will support VGA to SXGA resolutions.

Mitsubishi Electric's LVP-X80U is a 3.6kg £3,800 projector with a brightness of up to 1,500 ANSI lumens. It has a wireless remote control with a built-

in laser pointer, and is compatible with Macs and video and DVD players.

Its resolution is 1,024-x-768 pixels and picture sizes can vary from 40 to 300 inches diagonally. Natural colour matrix technology provides complete control over all six-colour signals (red, green, blue, yellow, magenta and cyan).

A live picture-in-picture feature displays images from two different sources at the same time, so statistics from a Mac can be combined on screen with video. A digitally expanded zoom magnifies picture sections using a "point-n-zoom" feature. Keystone correction is built-in.

Epson, 0800 220 546
Mitsubishi, 01707 278 684



G4 PowerBook docking station ships

Photo Control has released its Bookendz docking station for G4 Titanium PowerBooks. Bookendz docking stations replicate all the rear-panel PowerBook ports and switches – such as FireWire, USB, ethernet, S-video and IrDA. It also includes a Kensington lock. The product allows all a PowerBook's peripherals to be left plugged in to the docking station. It eliminates the need to unplug devices before taking the laptop anywhere – resulting in less wear and tear on cables and ports.

This version of Bookendz needs less insertion force than previous generations of the product, and integrates improved ejection levers, according to Photo Control. It's available in Titanium silver (£189) or black (£169).
AM Micro, 01392 426 473



continues page 43

Epson pair a perfect match

Epson has announced the PhotoPC 3100Z digital camera and Stylus Photo 895 printer. The devices use Epson's Image Matching Technology (HyPict) – which ensures the digital camera and printer work together to produce better-quality photos, by widening the colour gamut of data received by the printer from the camera, according to Epson.

The PhotoPC 3100Z offers 3x-optical and 2x-digital zoom. A shutter priority mode has been added for capturing images of rapidly moving objects. Data is stored on a CompactFlash Card.

Epson claims the combination of a 3.34-megapixel CCD and HyPict technology produces outstanding image-quality. HyPict technology generates 4.84 megapixel images from 3.34 megapixels of data. Panoramic images can be created with an image-stitching assistant, which joins separate images together to create a landscape print.

The Stylus Photo 895 printer reaches resolutions of 2,880-x-720dpi with "true edge-to-edge" printing. PhotoQuicker 3 software and a PC Card with CompactFlash ship as standard. The printer has a digital display that presents

multiple-print layouts, resolution settings and image selections. It prints at speeds of up to 7.8ppm for black text and 7.5ppm in colour. The 895 can print on 100mm-x-8m and 210mm-x-10m Premium Glossy photo paper, which mounts on an adjustable paper roller.

A black ink cartridge for the printer costs £14, while a colour cartridge costs £11. The camera costs £680. The price for the printer was unavailable at press time.

Epson, 0800 220 546



Image conscious

Epson's PhotoPC 3100Z (above) and Stylus Photo 895 (below, left) are designed to work together to produce better image quality.

Graphic app OS X-ready

GraphicConverter – Lemke Software's \$35 graphics-utility – has been updated to version 4.0.6 and Carbonized for Mac OS X. Other improvements include support for Flash files and a variety of bug fixes. It imports 145 graphics formats, can handle batch conversations and will exhibit slide shows. Lemke Software, www.lemkesoft.com



AM Micro cuts cards

AM Micro has cut a fifth off the price of Orange Micro's FireWire and SCSI expansion cards. Discounted products include the OrangeLink FireWire/USB Combo card – down to £104 – and the FireWire iBot Pro Web cam, which now costs £115.

AM Micro, 01392 426 473



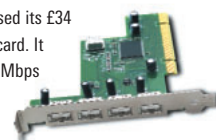
Aladdin cleans up

Aladdin has released Spring Cleaning version 3.5.1 for Mac OS X. The £34 Spring Cleaning is an uninstaller with 13 utilities to help clean and organize hard drives. This new version rids drives of unwanted Internet clutter with its iClean desktop tool. It's a free update for registered users. Softline, 01883 745 111



USB docks with Mac

Belkin has released its £34 USB 4-port PCI card. It supports four 12Mbps streams and will handle up to 127 devices on each port. Belkin, 01604 678 300



Flashy effects for DV

UK-firm csb-digital has released the £45 AlamDV, a selection of special effects for digital video. Effects include lasers, muzzle flashes and lens flares. It runs with graphics- and text-editing applications. AlamDV ships with a guide and 20 special effects – more will be available for free from the company's Web site. AlamDV, www.alamdv.com



ViewSonic in on a CRT

ViewSonic has released two CRT monitors, the 22-inch P225f and the 19-inch P95f. The £505 P225f CRT offers a 20-inch viewable display, which ViewSonic claims offers crisp images right to the edges at a resolution of 1,600-x-1,200 pixels with a refresh rate of 99Hz.

The P95f has an 18-inch viewable display with a resolution of 1,280-x-1,024 pixels. Like the P225f, it features Perfect Flat Screen technology, which, claims ViewSonic, delivers low-reflection distortion-free images. A 0.25-0.27mm variable aperture grille provides improved picture definition, the company adds. The P95f costs £325. InMac, 0870 555 0000



French toaster in UK

France-based Archos is introducing its compact MiniCDRW in the UK. It's a fully featured CD-RW that weighs just 500g. It writes at up to 8x speeds, re-writes at 4x and reads at 24x.

The product offers a range of connectivity options, including USB, FireWire and PCI cards. It also supports hot-swappable connectivity, and is a cross-platform device.

The MiniCDRW has an analogue output in order to play music CDs. It ships with Toast, and will be distributed at high-street retailers – including PC World and Dixons. Archos' MiniCDRW costs between £209-£220, with the price dependent on which connectivity standard customers choose.

Archos UK, 01672 810 366



UV kit for HP printer

Art Systems has introduced its Ultraviolet upgrade kit for Hewlett-Packard's DesignJet 5000 large-format printers (both 42- and 60-inch models). It offers a six-colour UV-ink capability and allows users to switch between dye-based and UV inks as needed. The solution costs £2,124, and for a limited time comes with one free roll of HP's new Universal high-gloss paper. Art Systems, 0115 957 5327



Rip. Mix. Burn

MusicMatch Jukebox version 2.0 combines a CD ripper, MP3 encoder, playlist maker, ID3 tag editor, and media player into one package. It offers music-file management, and can create and record an unlimited number of "CD-quality" MP3s. This free version offers improved sound reproduction and a more Mac-friendly interface. It requires at least a PowerPC G3 processor and Mac OS 8.5 or later. MusicMatch, www.musicmatch.com



Gefen converts to DVI

Gefen has released its DVI-to-ADC Converter Box, which is designed to link Apple's current Cinema

Display monitors to older Macs.

The box ships with a six-foot

DVI and six-foot USB cable. It can support a second LCD display with ADC (Apple Display Connector) connections, using a PCI slot with the ATI Rage 128 Pro graphics card. It costs \$299 from Gefen.

Gefen, www.gefen.com



Panic-ky music player

Panic's fully-featured audio player for the Mac will play CDs, MPEG audio – including MP3s – and network-streaming audio. It includes CDDB support for looking up CD titles, complete support for MP3s, support for network audio providers IceCast and ShoutCast, and more. Panic, www.panic.com



NEC ships hail of projectors

NEC Mitsubishi is releasing a barrage of new projectors, the MultiSync VT540, VT440, LT154 and LT155. All four feature an "Eco-mode" control system to reduce power consumption.

Both models in the VT series weigh 3.9kg, with a contrast ratio of 400:1. The £3,295 VT540 offers an XGA (Extended Graphics Array) resolution of 1,280-x-1,024 pixels and a brightness of 1,000 ANSI lumens. The £2,295 VT440 provides 1,024-x-768 XGA resolution and a brightness of 1,100 ANSI lumens. They are equipped with a digital zoom –

capable of up to 400 per cent magnification – and keystone correction.

Both units come equipped with a credit card-sized remote control. The remote control is stored in a slot in the projector. The LT154 and the LT155 offer brightness settings of 900 and 1,200 ANSI lumens respectively. Both have XGA native resolutions of 1,600-x-1,200 pixels. They also feature image-enhancement technologies and ship with a remote control and a carrying case for the projector and a PowerBook. The LT154 costs

£3,695; the LT155, £3,995.

NEC Mitsubishi, 0208 993 8111



Eco-friendly

NEC Mitsubishi's LT155 (below) and VT540 (right) feature power-saving and image enhancement functions.



Lexmark's inkjet move

Lexmark's J110 A4 colour inkjet printer offers laser-printer speed and quality at an inkjet printer price, claims the company.

It will achieve resolutions up to 2,400-x-1,200dpi and uses a four-colour ink process. It features a technology – devised by Lexmark – called PerfectFinish, which improves print quality by placing a thin chemical coat onto the paper before the ink is applied. The PerfectFinish solution is also sold as a consumable. Each ink cartridge will yield up to 3,000 pages at 5 per cent coverage, Lexmark claims.



The J110 reaches print speeds of up to 16 pages per minute in black, and 14 in colour. Lexmark also claims the printer has an eight second to first print time-lag. A 100MHz processor and 8MB of RAM are built-in. It's connected via USB, but an ethernet adaptor is also available. The printer offers a maximum paper capacity of 575 sheets – over three input trays, including a multipurpose feeder – and a maximum output capacity of 250 sheets.

MarkVision, Lexmark's print-management software solution ships as standard. A network model, the J110tn, is also available. The J110 costs £749, the network model costs £839.

Lexmark, 0870 444 0044

Bond-style briefcase packs real punch

Presentacase has been launched by ICE21 – a briefcase with a wide-viewing angle 15-inch TFT (Thin Film Transistor) screen built into the lid.

The XGA (Extendible Graphics Array) screen has a 160-degree viewing angle and offers a resolution of up to 1,024-x-768 pixels with 16 million colours.

A composite-video interface will link Presentacase to almost any source – such as a PowerBook, portable DVD player, camcorder or VHS player.

Also a briefcase, it has enough

space to carry a laptop and relevant paperwork. It can be mains or battery-powered. A universal power supply is built in, so the case can be used anywhere in the world with a mains supply.

The £999 Presentacase has an amplifier and stereo speakers integrated into the case.

ICE21, 01274 225 000



continues page 46

CDs & books

Music master

Master the art of music production with the *Macworld Music Handbook*. The book comes with a free demo



version of Cubase VST 5.0 – a recording and editing package for the Mac. Topics covered in this £20 book include the digital revolution, why professionals prefer the Mac, and audio and midi set-up. This title is published by Computing Sanctuary Publishing, and is available at a substantial discount to *Macworld* readers.

Macworld, 020 7831 9252

Words for the wise

Sherston Software has launched its Literacy Bank series. It offers over 700

structured word and sentence activities, each conforming to the National Literacy Strategy Years 3 to 6. There are six activities and a comprehensive record-keeping facility to help track pupils progress by date and objective.

The interface can be customized to suit a class by choosing between a range of desktop characters and themes. The Literacy Bank consists of four CD-ROMs, and the set costs £40 per user. Sherston Software, 01666 843 200

Maths notation app

MathType 3.7 for the Macintosh is an interactive tool for creating high-quality mathematical notation within word-processing documents. It supports non-PostScript printers and international keyboard configurations. MathType 3.7 costs £89. Upgrades are free to registered users of version 3.6. A low-priced upgrade is available for users of earlier versions. Adept Scientific, 01462 480 055



LaCie cuts drive prices

LaCie has cut prices across its range. The company has cut £50 off the price of its PocketDrive collection.

The FireWire and USB-connectable 10GB PocketDrive now costs £169, the 20GB £249 and the 30GB model £399.

LaCie has also reduced the price of its PocketDrive CD-RW 4x-4x-24x and 8x-4x-32x models to £249 and £339 respectively

The larger FireWire and USB 16x-10x-40x CD-RW now costs £249 (from £279). The FireWire 8x-4x-32x CD-RW has seen its price fall to £169 from £189. LaCie, 020 7872 8000

NEC's diamond monitors



NEC Mitsubishi has released the 17-inch FE750+ and the 19-inch FE950+ monitors. Built with Diamondtron Natural Flat tubes, the monitors use the sRGB international colour standard and require a Mac adaptor.

The CRT monitors feature a "Self Diagnosis Circuit", which displays technical problems on-screen. The units have been re-styled to be six per cent smaller than the previous monitor generation. Flat screens keep reflection to a minimum, so image quality is consistent, according to the company.

The FE750+ has a recommended resolution of 1,024-x-768 pixels at a refresh rate of 85Hz and a maximum resolution of 1,600-x-1,200 pixels at 76Hz. The FE950+ has a recommended resolution of 1,280-x-1,024 pixels at 85Hz, and a maximum resolution of 1,792-x-1,344 pixels at 68Hz. Both monitors ship with a three-year guarantee. The FE750+ costs £189, the FE950+, £299.

NEC Mitsubishi, 0870 120 1160

FinePix goes graphite

Fujifilm has announced its FinePix 6900 Zoom digital camera. It combines SLR-style camera features and controls with an output resolution of 6 million pixels from a 3.3 megapixel Super CCD sensor.

The FinePix 6900 Zoom has a higher resolution and better colour reproduction than its predecessor, the FinePix 4900 Zoom.

Encased in a magnesium-alloy graphite and black body, the FinePix 6900 Zoom offers automatic exposure with full manual overrides,

a flash connection and a manual focus ring.

It offers both a digital two-inch on-board TFT monitor and a miniature through-the-lens electronic viewfinder. The camera also offers movie recording and playback capabilities, capturing up to 160-seconds of video. It costs £799.

Fujifilm, 020 7586 1477



SuSE hits 7.1

SuSE Linux 7.1 PowerPC edition is shipping. It will install Linux on PowerPC-based Macs, and is based on a new kernel – called Kernel 2.4.2 – which offers "greatly enhanced" USB support. It also supports Advanced Linux Sound Architecture for Power Macs, more RAM and can handle larger files. The £40 SuSE Linux 7.1 PowerPC package contains six CDs, a 500-page manual and comes with 60-day installation support.



Version 7.1 integrates Xfree 86 4.0.2, written by SuSE, which supports the ATA adaptors found in most PowerPC-based Macs. SuSE, 020 8387 4088

Kodak's wideboy

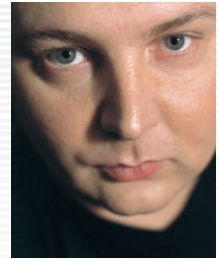
Kodak has launched the DCS 760 digital camera. It offers six-megapixel image quality and a burst rate of 1.5 frames per second for up to 24 frames.

It features an LCD display with a wide viewing angle, and functions are accessed through its graphic user interface (GUI).

The £5,900 camera can save and protect raw image data and features FireWire connectivity. It also includes "video out" – for viewing images – and offers optional long-lasting batteries. Kodak, 01442 844 512



The dot-com shake-out is returning the Internet to the people who deserve it – us.



World Wide Wake

The Net is dead. I know you've heard it before, but with dot-coms falling quicker than Brazilian rain forests, they're becoming endangered. There are more commercial Internet sites closing than opening at the moment, and if you ignore the empty shells of dead sites, and the horded Net names, the Internet is looking pretty empty.

Ask yourself honestly: How many Internet sites do I visit regularly? A dozen, maybe. Now ask yourself: How many of these are places where I spend money?

Here are my most visited sites: Amazon for buying books; ITN or CNN for news; LPnow.com for vinyl (don't ask); and f***edcompany.com – the dot-com deadpool. Only two of them make any cash out of me, Amazon and LPnow. Amazon is considered one of the Internet's success stories, yet is still to turn a profit on the billions of dollars invested in it. LPnow is a much smaller operation, selling new vinyl records at discount prices. I assume they're making a profit, because the Web site is not so high tech.

So there's the rub, if you spend £20 million on making a Web site, and burn through another few million every year in operating costs, you need to make an impossible profit over the next few years to survive. However, if you add a Web site to an already existing shop, without spending a million on a simple e-commerce server, you stand a fair chance. LPnow seems to be doing quite well – it's a niche market that they were serving before the Internet, so the Web site just adds some convenience.

The people that really don't stand a chance are the companies with "a really great idea". All too often there's an idea, but no clue. Some ideas are so ridiculous that any fool could see it coming. Furniture.com can't have spent too much on market research – would you buy a sofa you've never sat on? Cars don't sell so well on the Internet either, and it turns out few people are actually prepared to pay for a midnight delivery of Ben & Jerry's ice cream. One of the more obvious failures in the making was DigiScents, a company devoted to bringing smell-o-vision to the Web.

Without wishing to sound like an old fart (but failing), when I first got online there were only a few hundred Web sites. A big topic of conversation on the news groups was should the Internet community allow advertising on the Internet? How naive we were,

thinking we could change the world for the better.

Perhaps, when the Internet is cleared of all the dead wood that clutters it at the moment, we will find that the original ideals still exist below the quagmire of marketing baloney and ridiculous hype. A prime example is the latest move by the Massachusetts Institute of Technology. It's making all its course materials available online. The OpenCourseWare project will take ten years and cost \$100 million, but for the end user it costs nothing. It will enable students, and even other universities around the globe, to tap into the enormous resources available from MIT.

So why would MIT do such a benevolent thing? What does it have to gain? Nothing much, other than the thanks of millions of potential students, plus the recognition of being a world leader in technology. Students from China to Cuba, from Albania to Antigua, will benefit from the OpenCourseWare project, and know it came from MIT.

OpenCourseWare is being offered in a similar way to open-source software. With open-source material, people are free to adapt and improve it. Localized versions are made and shared, updates are made and shared. The whole culture is different because the original version was free. In short, OpenSourceWare is revolutionary, idealistic, and benevolent – everything the Internet was supposed to be in the first place.

Distance learning has benefited greatly from the Internet. The Open University Business School is leading the way for Internet-assisted learning. Students can find support in the Open University community, from both tutors and students, and all coursework is submitted electronically.

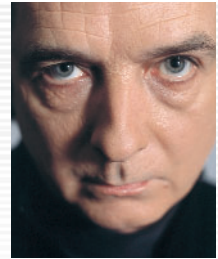
Another use of the Web as pure communication tool is personal Web sites. They may be relatively fringe compared to the big-business Web world, but iTools and others have made personal Web sites possible. Because of this, my mother-in-law gets to see her daughter digitally, and I get to keep in touch with old friends. Nobody is getting rich, but the Internet is enabling us to communicate more easily. Communication was always at the root of the Internet, and it still helps people get along together.

So, forget about get-rich-quick startups, and making your fortune on the ever-dwindling Internet gravy train. The sooner the Internet is stripped of its hype, the better.

MW

"When I first got online, the big topic of conversation was should the Net community allow advertising? How naive we were, thinking we could change the world for the better."

The digital revolution that was meant to free us, is dimming our lust.



All sexed out

Recently, someone described Apple's G4 PowerBook as just too sexy for words. As a matter of fact, I've even heard users say it's better than sex. Everyone loves them... and why not? Reinforcing the old adage that size really does matter, the PowerBook G4 is an impressive 1-inch thick, weighs a mere 5.3 pounds, and is the world's first notebook-computer made of 99.5 per cent pure grade CP1, or 'commercially pure', titanium. Cool. And, with speeds of up to 500MHz, it packs a tremendous punch, crunching through digital, audio, video and rendering huge audio files faster than ever before. And hey, what about that 100MHz system bus — the pipeline between memory and processor — and the 1MB of backside level 2 cache with speeds of up to 250MHz that make significant performance-enhancing contributions as well? No wonder the PowerBook G4 outguns all Wintel Pentium III-based notebooks by up to 30 per cent. And with industry-leading battery life of up to 5 hours between charges, you can outwork your PC counterparts long after their batteries give up the ghost. So, you can keep it up longer and work anywhere, anytime.

But, cruel jokes are a big part of any life where work-addicts and twisted obsessive-compulsive behaviour start to impinge on daily sanity. And while being able to work anywhere, anytime, with a sexy PowerBook may initially seem attractive, a recent survey into the impact of working long hours and overtime has found it's actually ruining people's real sex lives. The survey, commissioned by the Chartered Institute of Personnel and Development, found one in three partners of people who work more than 48 hours a week said they thought the long hours were having a negative effect on their relationships.

Apart from a few satisfied PowerBook owners, it seems the long suffering British worker has well and truly lost that loving feeling. And, more than half of the partners interviewed said they felt their sex life was suffering because the long-hours worker is always tired. Nearly a third of those working more than 48 hours a week, admitted that work-related tiredness is causing their sex lives to suffer. And 14 per cent reported a loss of, or reduced, libido in the last 12 months.

The report is based on interviews with 291 people, who have been working 48 hours or more a week for the past two years, and their partners. Two fifths of

the people working more than 48 hours a week admitted working the long hours had resulted in arguments with their partner, and that they felt they weren't pulling their weight on the domestic front.

Partners of long-hours workers also said the hours were having a damaging effect on their relationship with their children. More than a third reported that the children complained they didn't see enough of the parent who works more than 48 hours a week, and 27 per cent said the long-hours parent often didn't see their children at all before they go to bed.

There was also bad news for those of us that like to work late at night. The report showed that working round the clock can have a negative effect on job performance and cause accidents, both at work and off-site. In the last 12 months, more than a third of long-hours workers said they had made mistakes, ranging from mismanaging people and projects, to damaging property and injuring themselves.

Sexy or not, not everyone is comfortable with the idea that computers have become an addiction. And, even fewer people will be comfortable with the fact that they might be helping to decimate their sex life... that is, if they actually have one. The theory used to be that things like PowerBooks, the Internet, mobile phones and all the rest of the digital detritus that permeates our reality was supposed to change the way we work, rest and play, and actually improve the quality of our lives. However, the evidence suggests the contrary. Living in the real world, as opposed to living just next door, means there's a lot of people out there running on empty.

In a book I've just finished called the *Macworld Music Handbook* (shameless plug...), I quoted an anecdote from Antonioni's wonderful film *Beyond The Clouds*, where a girl in a Parisienne cafe tells a stranger the story of a group of explorers travelling through the jungle to find a lost Inca city. One day, at the foot of a mountain, the porters simply stop and refuse to go any further. When asked why, they refuse to speak, and nothing can persuade them to go on. After a few days, the porters suddenly pick up their packs and carry on with their journey. When one of the explorers asks the chief why they had stopped, he simply replies, "They were waiting for their souls to catch up." Maybe, if we're to get any real benefit from all this sexy technology, we simply need to stop once in a while to let our souls catch up.

MW

"Being able to work anywhere, anytime with a sexy PowerBook G4 may initially seem attractive, but a recent survey found it's actually ruining people's real sex lives."



Adobe After Effects 5.0

Publisher: Adobe (020 8606 4001) www.adobe.co.uk

Pros: 3D compositing; enhanced memory-usage; 16-bit colour support (Production Bundle only); SWF-export; Parenting and JavaScript Expressions; outstanding integration with other Adobe products; streaming MP3 audio through SWF export.

Cons: Limited support for imported third-party 3D objects; SWF-export doesn't take full advantage of AE's new features; supports standard layers only; the SWF-export feature doesn't support track mattes, 3D layers, 3D cameras and 3D lights.

Minimum specs: Mac OS 9.0.4; PowerPC processor; 64MB of RAM; 120MB of hard-disk space.

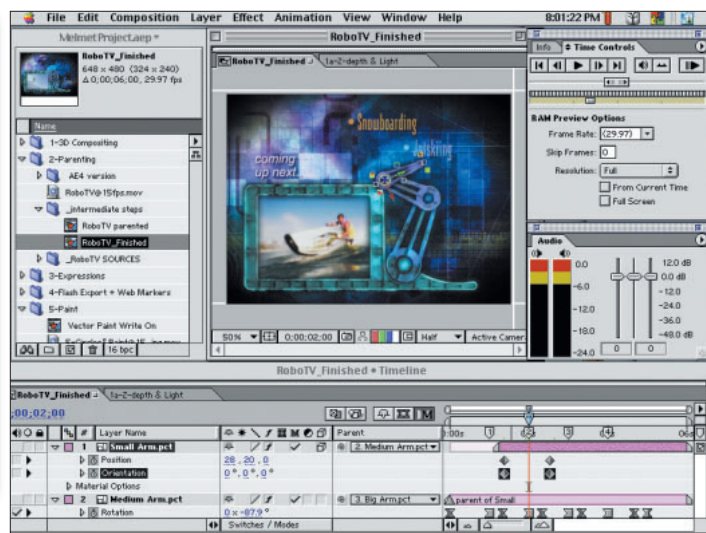
Price: Standard version, £450; Production Bundle, £999; upgrade to After Effects 5.0 from previous versions of the Standard version, £130; upgrade from previous versions of the Production Bundle, £189 (all prices exclude VAT).

Star Rating: ★★★★★/9.3

The highly anticipated upgrade of Adobe After Effects (AE) – version 5.0 – boasts features and enhancements that will take users creativity to the next level, and make visual effects and motion design accessible to a much wider audience than before.

Shipping as a Standard Edition and a Production Bundle – with a £550 difference in the price tags – this upgrade sees the app transform from a standard desktop motion-graphics application, to a high-end visual effects package. It includes 3D compositing, vector painting, 16-bit colour support and multi-publishing capabilities – all for under a grand.

With the long-awaited 3D-compositing feature, creatives can now add depth to their work by positioning



Face off

The user interface of AE 5 looks almost identical to the previous version. But once you take a more thorough look, there's an impressive selection of hidden features and productivity enhancements.

and animating objects in true 3D. Taking advantage of AE's built-in 3D engine, you can take any layer, except an adjustment layer, and convert it to a 3D layer – which can then be animated along the X, Y, and Z axes, with added cameras and light features.

Interacting with your object within this 3D layer is a breeze. A 3D layer is symbolized by a cube icon showing in the 3D-layer column in the Timeline window. This lets you easily pick it out from the crowd. By selecting the layer, a colour-coded XYZ icon (axes) – commonly found in fully fledged 3D-packages – appears in the Composition window. Each point on this icon controls a corresponding axis. The red one represents the X-axis, the green represents the Y-axis, and finally, the blue represents the Z-axis.

When you roll the mouse over a point on an axis, an outlined X, Y, or Z guide appears next to it, so you know which axis you're manipulating. By dragging one of the points on this XYZ icon with a selection or rotation tool, you adjust the layer's location in 3D space. If you're adjusting the position of a layer, the layer travels along the corresponding axis. If you're adjusting the rotation of a layer, the layer pivots around the corresponding axis at the layer's anchor point.

A preview of the 3D layer can change dynamically in the Composition window, according to your resolution settings (full, half, quarter), or you can choose to see only a wireframe representation of its movement. While you're 3D view changes dynamically in the Composition Window,

the Info palette also updates to show the new co-ordinate of the layer you're adjusting.

It's in this view one notices the power and significance of the enhanced memory caching. AE tries to offer the best balance between maximizing interactivity, and providing visual feedback. It drops the preview resolution temporarily – instead of switching to a wireframe mode or redrawing the preview continually – saving on processor and memory requirements. With a fast computer and plenty of RAM, AE recalculates the resolution pretty quickly, almost unnoticeably.

Animating properties

In true AE style, all layer properties in X, Y and Z-axis can be fully animated over time. You simply select your layer in the first frame, and change any required property values by dragging or selecting the property and typing in numeric values. Then go to the next frame, create a new keyframe, change some values there or drag any properties you want changed, and then rewind the clip. Click on RAM Preview to see your work of art.

As you add camera and lights to your 3D layer, AE lets you choose options that represent the properties of real cameras and lenses. A Preset menu contains sets of properties that correspond to common lens sizes, (from 35mm to 200mm).

AE lets you choose light types, such as Parallel lights to model distant sources such as the sun, Spot lights, Point lights, and Ambient light.

For example, you might define a camera using a wide angle 15mm preset, then cut to a second camera created using a 200mm lens to capture close-ups from a different perspective.

Best of all, in AE 5, you can create and save custom camera presets for a later user.

At any time you can switch between views – such as Top, Bottom, Left, Right, Back and Front (orthographic view) – in the Composition window, and also customize predefined views. However, AE's Composition window lets you interact with the orthographic views only one at a time, not simultaneously in "split-view" like in other 3D packages.

While in a custom view, however, you can use the Orbit Camera tool from the toolbox to change the 3D view interactively – and thereby gauge the distance between your layers in Z space. After all, this feature – and a "split-view" feature for that matter – is for reference only, since you can't animate them. You can, however, add cameras, animate your own arbitrary movements, and then cut between them in the timeline.

Fixed files

Advanced users can import fully fledged 3D footage (Softimage PIC/RLA and Electric Image file formats) into After Effects, but they can't animate individual objects (such as Z-depth) within those files. But, if the layer which these files are within is a 3D layer, its Z-depth attribute and other properties can be manipulated like any other 3D layer.

Other new features, which will impress advanced users, are AE 5's Expressions and Parenting features.

You use Parenting to let an object

control one or more layer, light or camera, by setting up a parent-child hierarchical relationship and synchronizing them.

You can achieve the same thing with Expression, but it offers much more flexibility. The latter uses JavaScript for calculation and interaction between layer objects.

Simple parent-child relationships can be easily setup using a standard drag-&-drop "pick whip". You don't have to be a programmer to use this feature – however, to write powerful expressions you'll need JavaScript skills. To get you started quickly, AE's built-in Expressions language menu boasts a selection of ready-made JavaScript maths syntax.

Using JavaScript, you can even finish off an expression you started through the use of the standard drag-&-drop pick whip. The Expressions field is not really an editor, such as Simple Text or Notepad. It's more like a multi-lined layer marker, where the JavaScript syntax or commands resides. However, you can use any external text editor of your choice, and then cut-&-paste the code snippet in the Expressions field. But then, you'll risk writing codes with syntax errors if you're not careful.

Shared expressions

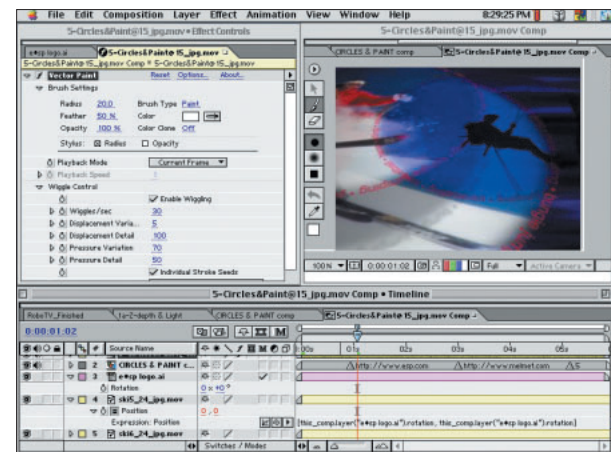
One neat feature, although with some limitations, is the ability to save one expression and reuse it in another project. I expect Adobe will setup a Web site, where AE 5 users can share expressions soon. A parent-child expression may look like this:

```
p1 =
this_comp.layer("paddle1.
pct").position;
p2 =
this_comp.layer("paddle2.
pct").position;
ease((time* 1.33),
in_point, out_point, p1,
p2).
```

Because expressions are written in relation to other layers in a project, it doesn't always work to save and load expressions from one project into another project.

Currently, if you want to save an expression for use in another project, you have to save the entire project file and use it as a reference when you reuse the expression. You then paste the expression in the expression field of the layer property you want, and rename it where it's relating to a layer or property from a previous composition.

You can also take advantage of AE 5's ability to save favourite effects, including expressions and masks. Again, when this



feature is used with expressions, it works as long as the expression doesn't refer to properties from the previous project.

As part of AE 5's multi-publishing objective, the new SWF export feature (See Motion Effects) will save creatives loads of time when repurposing video and TV animations for delivery on the Web.

As DV software and hardware equipment is becoming more affordable and accessible to a wider audience, the Internet will rapidly become yet another means of distribution for motion graphics.

AE 5's support for the widely embraced Macromedia SWF technology – once enhanced to completely take advantage of the Flash 5's new features – will also help extend AE 5's ability to reach a newer audience, and quickly create new revenues for content creators.

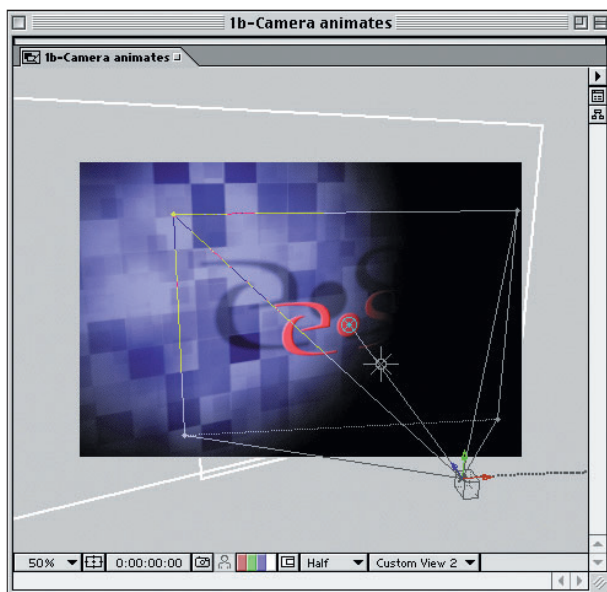
The implementation of this limited feature must have been fairly speedy, considering that Adobe's other visual effects package, LiveMotion, introduced SWF export nearly a year ago. The latter even featured the same timeline and keyframe animation metaphor as After Effects. With an upgrade of LiveMotion in the pipeline, it'll be interesting to see what features showcased in AE 5 will be part of – or perhaps developed even further in – the next LiveMotion upgrade. For instance, the way Expressions uses JavaScript suggests that LiveMotion 1.5 or 2.0 will certainly come loaded to the teeth with mathematical, vector and 3D JavaScript commands to try to match Macromedia's latest upgrade, Flash 5. You can almost count on it, since Flash 5's scripting language ActionScript is based on ECMA-262 specification (in other words JavaScript), and LiveMotion is, after all, hyped as "the Flash killer".

The SWF export brings, for the first time, streaming MP3 into After Effects.

continues page 55

Camera angle

In After Effects 5.0 you can create as many cameras and lights as you need, and as with all properties of an object in AE, you can animate them over time.



You can also set looping and other playback features for the SWF file, prevent import into SWF editing applications, and create Web links from AE 5's layers by translating After Effects' layer markers into URLs in the exported SWF file.

However, it doesn't support Track mattes, 3D layers, 3D cameras or 3D lights – and the list goes on.

Needless to say, the SWF export feature alone will not turn AE 5 into a Flash Killer. But, AE's easy to use and advanced keyframing and vector text-animation capabilities will turn the app into a Flash SWF special effects unit.

After Effects 5 includes numerous other minor productivity enhancements and features, such as easier media management thanks to a relational flowchart, and video-style editing tools.

You can now import Premiere footage with After Effects plug-ins added to them straight into AE 5 without any problems.

The Production Bundle also features the Standard version's 100 or so plug-ins, plus 38 extra ones. You don't pay an extra £500 for the 38 plug-ins alone, but also for the ability to do advanced colour keying with Inner Outer Key, extra audio features, network rendering, and 3D

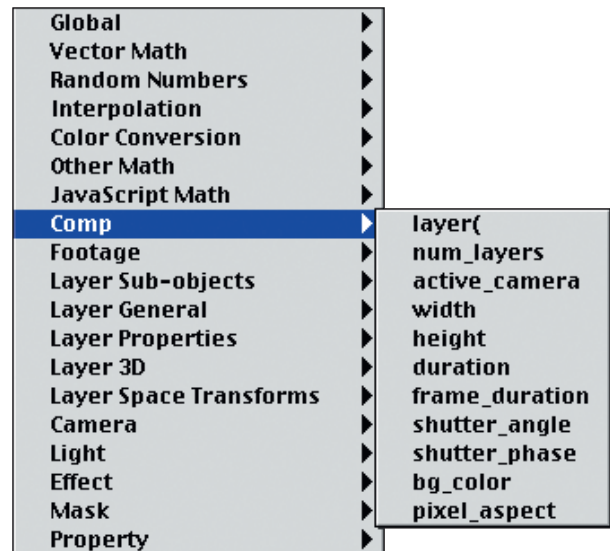
channel and vector paint features to name but a few.

With 16-bits per channel colour support, you can work with high-bit Photoshop files, digitized motion-picture film, or HDTV (high-definition TV) footage without losing detail. AE 5 lets you work in 8-bit mode to preserve memory, and then at delivery time lets you switch to the 16-bit colour mode.

Macworld's buying advice

With this upgrade, Adobe has more than successfully managed to make AE a strong motion-graphics application. This upgrade was due ages ago, and has managed to satisfactory touch most areas where competitors such as Pinnacle Systems' Commotion Pro have had an edge. Above all, AE 5 has brought visual effects and motion design to the widest possible audience, thanks to its multi-publishing capabilities and support for Macromedia SWF. The latter could be a threat to rivals in the Flash-design scene.

As it stands, for £450, creatives can easily take projects into the next dimension with 3D-compositing. Until now, these features were found only in high-end resolution-independent



packages, such as Discreet Combustion.

High-end users may find better integration and support for third-party 3D objects in other packages, but for a considerably higher price. This upgrade is a must for multimedia and Web creatives, and film and video professionals alike.

Johan Lopes

Good parenting

You use mathematical operations, such as addition or multiplication, to alter exactly how one object's property – such as rotation – controls another object's scale property.



Adobe Acrobat 5.0

Publisher: Adobe www.adobe.co.uk

Distributor: Computers Unlimited
(020 8358 5857)

Pros: Simple repurposing of documents; integration with Web browsers; good colour-management facility; better batching feature.

Cons: Not OS X native; lack of Convert to Adobe PDF function.

Min specs: PowerPC; Mac OS 8.6 (with limitations) - 9.1; 64MB of RAM; 115MB of hard-disk space.

Price: £205; upgrade from version 3 or version 4, £75 (both exclude VAT).

Star Rating: ★★★★★/8.2

There was a time when Acrobat technology was used to create PDF files via Distiller, view them through the freely available Reader, and little else. But the general evolution through versions 3 and 4 have culminated in a far-more creative product.

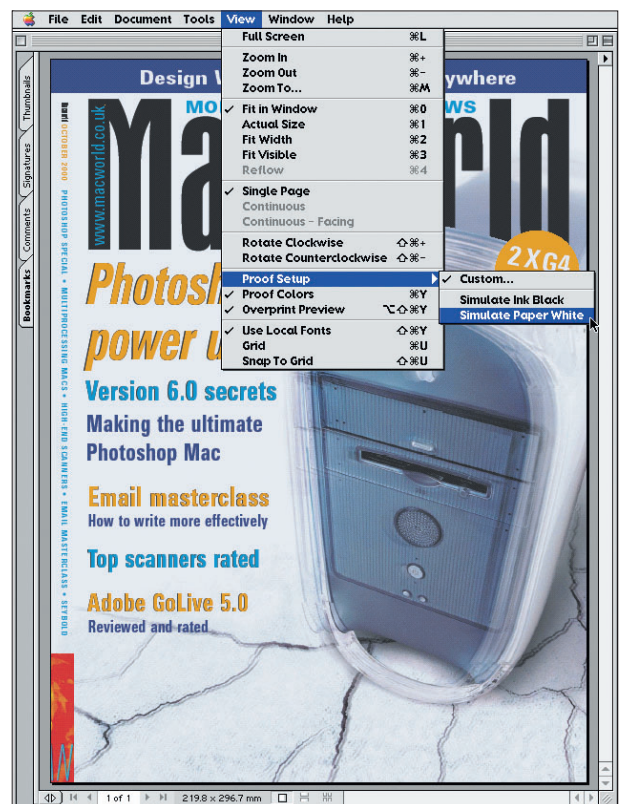
A key change in Acrobat 5.0 is that of repurposing PDF files, or using the contents in other ways. Sections of text and tables in a complex PDF can be utilized in a company report, or a PDF edited for use on a small-screen device. The latest format supports cross-platform

tagged Adobe PDF documents. These documents can be saved in RTF (rich text format) and recognizes paragraphs, text formatting, lists and tables. And, tagged files can be created when converting Web pages to PDF. Even non-tagged PDFs can now be saved in a number of formats – including RTF, EPS, JPEG, TIFF and PNG – and graphics within a file can be exported as individual items. Publishers will be pleased with the latter, for even though PDF is a universally recognized file format, it isn't a standard as such.

Printers often have their own specifications for PDF submission, and these inevitably differ from the PDFs submitted by advertisers. The ability to export individual graphics allows a publisher to recreate an advertisement, for instance, in the correct manner. Unfortunately, vector images can be only exported in a raster format; keeping them in a vector format requires the opening of the PDF in the likes of Adobe Illustrator.

Anyone who passes PDFs through a proofing cycle will appreciate Acrobat 5.0's new Web-browser plug-in. Providing a number of standard Acrobat tools – including highlight, strikethrough, underline, stamp/comment addition and digital signature, this allows a server-based PDF to be shared and marked up by a number of people. You can even

continues page 57



Soft focus

With its new colour management system, Adobe Acrobat 5.0 supports on-screen soft-proofing of PDFs that can be extended to printouts as well.

upload and store comments to a server using the industry-standard WebDAV (Web Distributed Authoring and Versioning) protocol, allowing them to be seen and shared by multiple users.

This sharing of PDFs through a Web browser goes further. Interactive forms can be database driven, filled in by users, and digitally signed within a Web browser. Such forms can have dynamic fields that change according to input. There's even support for XML (extensible markup language) form data. Such close co-operation with databases leads to some very interesting possibilities – especially as security issues are now a thing of the past, courtesy of 128-bit encryption used in conjunction with digital signatures. Even a spell-checker is included. This performed flawlessly with both Internet Explorer 4.51 and 5.0 in Mac OS 9.0.4.

Many aspects of Acrobat 4 have been updated and improved. Batch processing is no longer limited to a small number of presets – almost any function can be used, and custom sequences of functions set up. In conjunction with the new PDF Consultant tool – which strips out unnecessary elements so reducing file size – PDFs can be checked and repaired. For example, to remove all elements from a PDF, a file could be loaded, have all images extracted in TIFF format, and then be exported in RTF format via a single macro. Those with JavaScript knowledge can even create their own actions. Powerful stuff.

Bookmarks now show subheads in colour, using bold or italic text. Toolbar content is fully customizable, and no longer limited to the standard Adobe set. However, the Microsoft Office look to the toolbars will not be to everyone's taste, mine included. Perhaps Adobe should have given the option for toolbars to appear as per previous versions.

Adobe has worked hard to make Acrobat 5 more appealing to the print

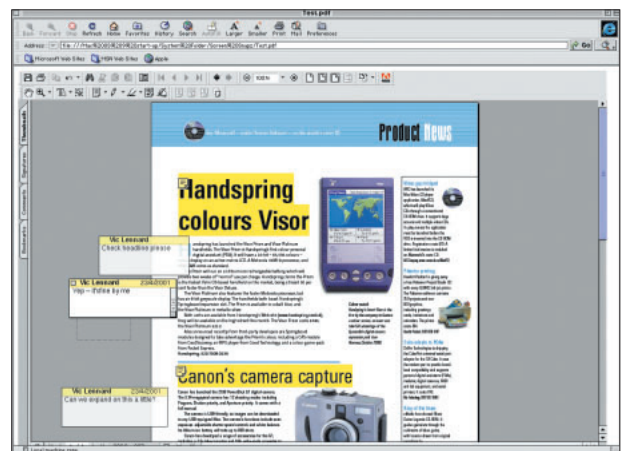
and repro fraternity by adding a number of useful print-based features. Proof Setup allows the colour space to be defined (with Euroscale coated and uncoated supported) along with paper white or ink black options. Such on-screen soft-proofing, used in conjunction with a calibrated monitor, appears to work quite well and can be extended to printouts too. In fact, Acrobat's whole colour-management system, including the handling of ICC profiles and files without embedded working-space profiles, is very flexible and should lead to good results. Through the use of the same Adobe Color Engine that Illustrator 9 and Photoshop 6 possess, an image's transparency effects can be viewed and printed – a feat not previously possible.

Additionally, the Overprint Preview feature gives an on-screen warning of overprint/knockout problems within a file, although this is of limited use for QuarkXPress users as it always trashes custom knockout preferences on saving a document as a composite PostScript file or PDF.

Macworld's buying advice

Acrobat 5 is not without its problems. At present there is no native Mac OS X version, and there are also limitations to its use in the Classic mode – including difficulties with the scan functionality and third-party drivers. Even Acrobat Reader's Search facility is unsupported in OS X Classic mode. However, Adobe has promised the OS X upgrade will be free.

When Acrobat 4 was released, a number of features were missing in the Mac version. While some of these were added in later updates, Adobe received a high level of clack from Mac users. This time round, only one important feature has been left out: close interaction with Microsoft Office 2001 through the lack of the Convert to Adobe PDF function. This Windows-only macro



preserves the structure of a Microsoft Word file, including links to Tables of Content, indexes and figure tables. Using the Mac's Create Adobe PDF facility results in a "dumb" PDF that requires manual recreation of links – not a pleasant idea when working with a large document.

Without a doubt, Adobe has taken Acrobat to a new level. Web integration in terms of converting Web sites to PDF, proofing documents and adding digital signatures, content repurposing with extraction of graphics and text export, and superior print and soft-proofing facilities make Acrobat 5 a very tempting upgrade for anyone with a previous version, and a must-buy for newbies to PDF creation.

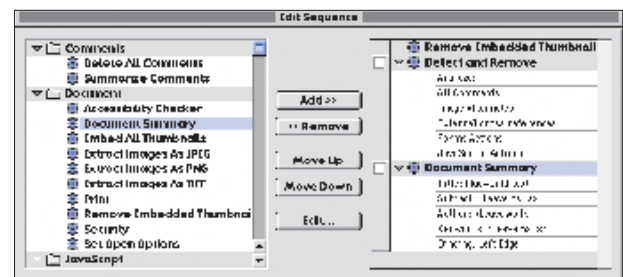
Vic Lennard

Online editor

Via the new Web plug-in, PDFs can be marked up in a browser and shared during a proofing process.

All in one

Acrobat 5.0's improved batching allows a sequence of functions to be imposed on a folder-full of PDFs – including PDF Consultant tools for checking and repairing documents.



On-screen magnification tool

USB Microscope

Manufacturer: iRez www.irez.com
Distributor: AM Micro (01392 426 473)
Pros: It's a lot of fun for kids and adults.
Cons: Pricey; imperfect software.
Min specs: USB
Price: £699 (excluding VAT)
Star Rating: ★★★★★7.2

Web cam specialist iRez has a USB Microscope that lets you see exactly how gross things

are close up. It's designed for education, and I can guarantee that kids of all ages will love it. The software allows you to record your adventures in QuickTime, and replay them later. You can also capture stills with the click of a button.

There are different lenses supplied, for images ranging from big to disgustingly detailed. There's also a cradle to mount the microscope on, so you can aim it at slides. Unlike traditional microscopes, there are lights built into the lenses, so you don't have to worry about dark slides – but you can look at back-lit objects using the un-lit lens.

The software wasn't as professional

as it should be. It was prone to crash from time to time. I managed to get a newer version of the software that was supplied, which improved things – but it didn't eliminate crashes entirely.

Macworld's buying advice

The iRez USB microscope is a marvel, and it will entertain and educate. The price is a bit off-putting, and I was expecting the software to be more polished, but it's better than the Intel USB microscope – which is compatible only with Windows. It's still a great addition to any classroom.

David Fanning



Hair's breadth

One of David 'Silver Fox' Fanning's many grey hairs exposed in all its glory by the USB Microscope.

OS X Web browser

OmniWeb

Publisher: The Omni Group
www.omnigroup.com

Pros: It's fast; looks great.

Cons: Not all pages display correctly.

Min specs: Mac OS X

Price: Free or \$29

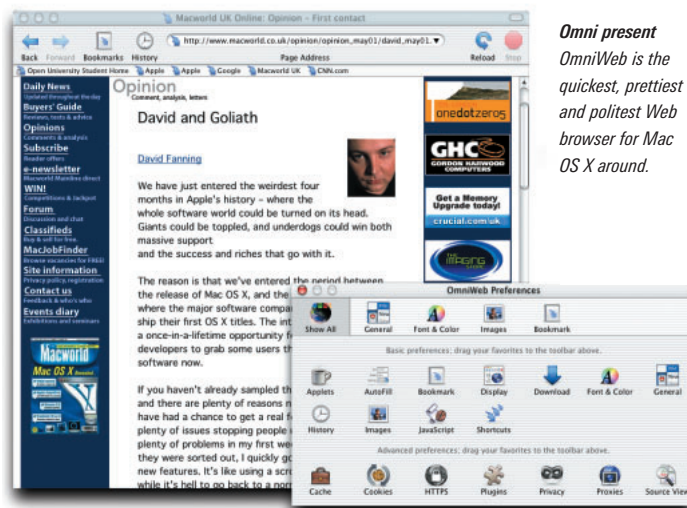
Star Rating: ★★★★★/8.4

OmniWeb is a real alternative to Microsoft Internet Explorer running on Mac OS X. Just that fact is bound to win OmniWeb legions of followers among the Microsoft-hating public. I'm not a rabid Microsoft hater – in fact I really love some Microsoft products, and I can't imagine life without Entourage. However, I now use OmniWeb on my Mac, because I use OS X.

It isn't that I don't like Explorer, I do. It's the simple fact that OmniWeb is prettier and faster than the Explorer 5.1 beta that shipped with OS X. If Microsoft tunes up Explorer to work as gracefully as OmniWeb, I might move back. But, for now, it's OmniWeb.

When you use OmniWeb, you're tapping into a fabulous resource of programmers, with a culture reminiscent of the early days of computing. Their mission is to make software that's useful and fun. A little more delving into their Web site reveals that they're fully paid-up real-life tree-hugging hippies. They avoid using paper, they recycle everything, they even insist that workers move near to the company so they don't pollute unnecessarily. Hats off to them I say.

OmniWeb started life as a NeXT application, and has been going longer than Netscape. It seems natural to port it to OS X, as much of OS X is based on NeXTSTEP. The key to OmniWeb's beauty is simplicity. The interface is uncluttered and easy to use, and it makes good use of the Aqua design. Much of the feel of OmniWeb is only subtly different from the average browser, but it's definitely a more pleasant experience.



*Omni present
OmniWeb is the
quickest, prettiest
and politest Web
browser for Mac
OS X around.*

The main reason for my allegiance is that it's faster than the Explorer beta by some margin. Checking the speed of your Web connection is easy. Simply search the Internet for one of many Web-speed gauges. These are pages that measure how long it takes for you to download a special Web page. With a 512Kbps ADSL connection, I was getting an average of 450Kbps with OmniWeb. Switching to Explorer made the speed drop to an average of 350Kbps – a significant difference.

Neither of the browsers had a 100 per cent record for displaying pages correctly. So you will probably have a copy of each on your machine. I found Explorer had a problem with Hotmail from my machine – although other machines worked fine. OmniWeb occasionally failed to display

text on one particular page. These quirks are found in just about every browser. OmniWeb crashes occasionally, however, it's a very pleasant crash. After it hit a problem, it brought up a sign requesting permission to send a bug report to the Omni Group, then crashed – how polite.

Macworld's buying advice

Buying a browser may be something of an alien concept to many people. You can use OmniWeb for free. However, if you leave it unattended, it will plaster unlicensed across your screen as a reminder. Moving the mouse makes it disappear, so even the nagging is polite. If there ever was a browser you should pay for, OmniWeb is it.

David Fanning

Grammar tester

Literacy Bank

Publisher: Sherston Software
(01666 843 200)
www.sherston.com

Pros: Well structured.

Cons: Patronizing.

Price: £47 (including VAT)

Min specs: System 7.6.1;
CD-ROM drive; 16MB of RAM.

Star Rating: ★★★★★/8.3

The funny thing about being a wordsmith is you don't need to be able to cite grammatical rules to know how to write. It's a bit like riding a bike – once the stabilizers are off, they're off for good. Anyway, that's my excuse for being bamboozled by lessons designed for 10-year-olds – and I'm sticking to it. At least it wasn't just me. The entire *Macworld* office queued up to tackle tests on transitive verbs, passive verbs and past participles – and not one of us got 100 per cent. At least we know the written language is in safe hands.

The four-CD Literacy Bank series dovetails with the government's Literacy Hour scheme – which dictates that all pupils have to spend one hour every day working on literacy skills. The series has been crafted by Sherston Software in conjunction with the National Literacy Association (NLA), the body that helped

the government form its Literacy Hour policy. It is designed to provide a resource for use in the 20 minutes of "independent learning" within the Literacy Hour.

The interface is simplicity itself, which is no less than one would expect from a series pitched at children as young as seven. All lessons are "overseen" by a talking head, the appearance of which teachers can select in preferences (robots for the youngsters, young boy or girl for older pupils). This character guides the child through lessons, albeit patronizingly ("Hey, you're really clever").

The software is carved in two, with one half for use by pupils and the other by teachers. Lessons can be tailored on a pupil-by-pupil basis, with individual pupils' performances logged by the software, so allowing progress to be monitored. Teachers can also use it to write literacy reports, and lessons can be printed off as formatted

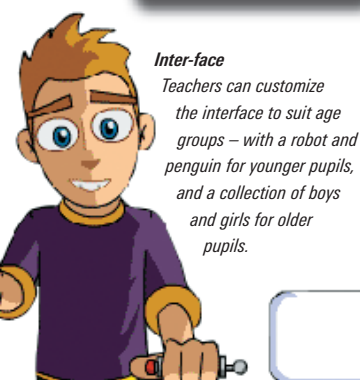
worksheets for use away from a computer. Templated certificates upon completion of all lessons can also be printed out.

The lessons themselves are structured so that a pupil can work through lessons from the first CD to the last, as he or she progresses through school. The one thing I can remember of grammar lessons is that the only thing drier or dustier was the blackboard. I'm sure I'd have absorbed and retained more using a tool such as Literacy Bank.

Macworld's buying advice

For pupils and teachers alike, Literacy Bank makes perfect sense. It fits perfectly with the government's policy on ICT (Information Communication Technology), because of the comprehensive input from the NLA. Lessons are involving as well as being informative, and also offer teachers worthwhile help on lesson planning.

Sean Ashcroft



You scored 5 out of 8 in this activity.

OK



Analogue-to-DV converter

Formac Studio

Manufacturer: Formac (020 8533 4040)
www.formac.co.uk

Pros: Makes old video equipment useful again; TV and radio tuners; no need for an expensive DV camera.

Cons: TV and radio tuners don't work in Mac OS X.

Min specs: FireWire.

Price: £319 (excluding VAT)

Star Rating: ★★★★★/8.5

The Formac Studio provides FireWire compatibility for all video cameras, and adds TV and radio to Macs. The future may even include a hard-disk VCR for the Studio, but it's the FireWire features that make it attractive.

Video is moving in a digital direction, but there are a lot of analogue cameras out there, plus a lot of DV cameras that can only output video – not re-record it. The Formac Studio will breath new life into those cameras, because it converts plain-old analogue video into FireWire DV, allowing it to be used with applications such as iMovie. It also allows digital output to be recorded on regular analogue VCRs, and allows a £250 camcorder to be used in the same way as a £1,000 DV camcorder. The quality of the

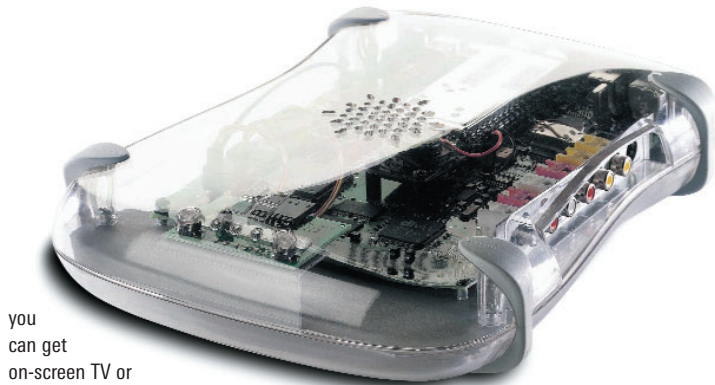
original recording isn't quite as good – but once it's recorded digitally, the quality won't decline.

Working the Studio is a breeze. It takes its power from the FireWire connection – so no messy power leads or adaptors are needed. Along its side are connections for video and audio in and out. Along the back are connections for S-Video in and out, plus connections for antennas for TV and radio. There's also FireWire in and out.

When we tested the Studio, we had it on a machine running Mac OS X. So, thinking it was unlikely to work, we fired up iMovie to have a look. The Studio worked first time with no problems at all. As iMovie sees it as a DV camera, the Studio is compatible without software. However, you won't be able to control the camera in the same way that DV cameras can be controlled with iMovie. The camera is set only to play, and you can record the bits you want in iMovie.

Transferring a movie from a Mac is just as easy, and you can connect Studio to any analogue VCR – though you may need an adaptor for SCART connections. Because the video on the computer is digital, you can run off as many analogue copies as you like without losing quality.

At first glance, it looks like the TV and radio features were thrown in as a sweetener, but this isn't the case. If you plug a decent antenna into the studio,



you can get on-screen TV or FM radio. This feature doesn't currently work with OS X, but Formac is working on it. You can also record TV clips, though this isn't something many will need to do. However, there are menu options that refer to forthcoming products that will enable you to use your computer as a VCR. By adding a type of Formac hard disk – not yet available – you'll be able to set your computer to record shows while you're out.

Long gone silver?

Rumour has it that the clear Studios were an accident – that they were supposed to be silver. Let's just call them a 'limited edition'.

Macworld's buying advice

If you have an older camcorder, or even a new one that doesn't support video input, the Studio is invaluable. It will breath new life into old equipment, plus it has a couple of extra tricks up its sleeve – such as TV and radio. You could spend a grand on a DV camcorder instead, but even that won't give you TV on your Mac.

David Fanning



Westminster tour guide

Explore Parliament

Publisher: The Armchair Travel Company
(020 7386 5454) www.armchair-travel.com

Pros: Well-designed interactivity; immersive; exhaustive detail; affordable for schools.

Cons: Video segments missing at some points.

Min specs: CD-ROM drive; 24MB of RAM.

Price: Tourism Edition, £19.95; Scholastic Edition £39.95; site licence £80 (all prices include VAT).

Star Rating: ★★★★★/8.5

The last time I went to the Palace of Westminster was as a trainee reporter in 1987. I saw Prime Minister's question time, during which Mein Führer Thatcher slugged it out with Kinnock. A House of Commons official led our party to the press gallery through a maze of oak-panelled, bust-lined corridors dripping with history. The temptation to sneak off on a one-man tour was great. Now, 14 years on, my

wish has been granted – thanks to the virtual-tour title, Explore Parliament.

Every detail is covered in amazing depth, both visually and historically: ceilings and floors, stained-glass windows, oils, murals, and statues all yield information, which is accessed by a single click on that object.

Many of these items offer audio clips, with an actor speaking a famous quote from, say, Oliver Cromwell. Such in-depth exploring starts outside the Palace, with the surrounding buildings and statues.

One's journey through Parliament is nicely editable. You can record and save your own tours, or select a tour by topic. These include a host of categories, including Civil War Period, American Revolution, and Portraits of Women.

The panoramic photography is a treat, even though file-size restrictions mean pictures can't withstand close-zooming. But, it's good enough to give a real flavour of the place – from the gilt splendour of the House of Lords, to the more-functional committee rooms.

This title is designed with schools in mind, as, from September, courses in Citizenship become part of the National Curriculum. Explore Parliament – with its



detailed breakdown of the parliamentary process and its history – can be used as a teaching tool.

Macworld's buying advice

This Explore title is available in tourism and Scholastic editions. The former is aimed at visitors who, like me, can't experience every detail of this world-renowned landmark. The key difference between the two is that, in the scholastic editions, tours are editable. But you don't need to be a tourist or educator to enjoy these titles – they allow anyone to enjoy a VIP tour of our seat of government.

Sean Ashcroft

Throne alone

The sumptuousness of the House of Lords is captured by immersive panoramic photography. The detail is also impressive. One click on Churchill's statue reveals that MPs touch his foot on entering the commons, hoping the great man's oratorical prowess rubs off.



Trackball round-up

Trackball Explorer

Manufacturer: Microsoft
(0870 601 0100)
www.microsoft.co.uk

Pros: Looks lovely and high-tech.

Cons: The thumb-operated scrolling wheel takes getting used to.

Min specs: USB

Price: £49 (including VAT)

Star Rating: ★★★★★/7.5

Trackball Optical

Manufacturer: Microsoft
(0870 601 0100)
www.microsoft.co.uk

Pros: Thumb control for the trackball; sleek design; cheaper than the Explorer.

Cons: Some people prefer index-finger control.

Min specs: USB

Price: £34 (including VAT)

Star Rating: ★★★★★/7.7

Cordless Trackman FX

Manufacturer: Logitech
(01753 870 900)
www.logitech.com

Pros: No wires; looks cool.

Cons: Current software doesn't yet support OS 9.1.

Min specs: USB

Price: £54 (including VAT)

Star Rating: ★★★★★/6.5

Expert Mouse Pro

Manufacturer: Kensington
www.kensington.com

Distributor: Acco
(0800 252 359)

Pros: A million functions; ambidextrous; supports Mac OS X.

Cons: Not quite as pretty as the other trackballs.

Min specs: USB

Price: £79 (including VAT)

Star Rating: ★★★★★/8.6

Shuttle Pro

Manufacturer: Contour
(020 8731 1410)

Pros: Handy for video users.

Cons: Pricey for such a single purpose peripheral.

Min specs: USB

Price: £117 (including VAT)

Star Rating: ★★★★★/7.1



Nest of mice

Clockwise from the left: Microsoft's Trackball Explorer; Contour's Shuttle Pro; Kensington's Expert Mouse Pro; Logitech's Cordless Trackman FX; and the Microsoft's Trackball Optical.

Repetitive strain injuries are common in the modern computing environment.

You have a few options: you can either give up computing; or, more realistically, you can change the way you work. If your mousing hand is suffering, we have a selection of alternatives for you to choose from.

The most common alternative to the mouse is the trackball. Like an upside-down mouse, you move the ball with your fingers instead of moving the whole device. However, while the design of mice changes little, trackball design is varied.

Fingers or thumbs

Microsoft has produced a couple of great trackballs. We looked at the Trackball Explorer and Optical. Both use an optical sensor to track the ball's movements, but the button layout differs. With the Trackball Explorer, the ball is controlled by your index and middle finger, with a scroll wheel and buttons on the left hand side for thumb control. Your hand rests quite comfortably on the curved design, leaving your ring finger and little finger resting on two more buttons. As with any trackball, it takes some getting used to.

The Trackball Optical tackles the problem from a different angle, putting the scroll wheel between buttons on the top, and the ball on the side for thumb operation. Again, personal preference will always differ, but both models do a good job.

How you discover if you're a finger tracker, or a thumb tracker is difficult. I would definitely recommend seeing any of the models we looked at in a showroom.

The Microsoft trackballs are both tethered by USB cables to the Mac, but the Logitech Cordless Trackman FX is wireless. The Mac platform has been a bit short on cordless mice and keyboards, so I was pleased to see this appear. The design gives you control of the ball with thumb and index finger, and there are a host of buttons – mainly used for Internet navigation.

The software for the Cordless Trackman FX is quite good, giving single-click access to favourite Web sites. Unfortunately Mac OS 9.1 is a problem, though it works fine with Mac OS X without the software.

Left and right

It's worth mentioning that all the trackballs mentioned so far have been for right-handers only. Lefties – such as myself – must adapt or stick with our mice. The next trackball is ambidextrous.

The inaccurately named Kensington Turbo "Mouse" has been around for years. The latest version is called the Expert Mouse Pro and has changed a lot – though not so much that you can't detect its lineage.

The Expert Mouse Pro uses four buttons around the trackball to activate different clicks and double clicks. The four buttons are further enhanced by the use of chords. This means when you hit combinations of the buttons, you can activate other things. To add even more functionality, there are a further six buttons across the top – each capable of launching an application or a Web page – plus a scrolling wheel.

Compared to the other trackballs, the Expert Mouse Pro is an ugly

duckling. However, it has more functionality than any of its competitors. It also has OS X drivers.


The last alternative input device is the Contour Shuttle Pro. Unlike the other trackballs, this is designed to complement rather than replace the mouse. It's an excellent addition for anybody using video-editing packages. It consists of a jog-and-shuttle wheel, and some additional function keys. Video editing is quite a tactile activity, and there is a limit to how easily a keyboard can be used effectively.

Macworld's buying advice

The Contour Shuttle Pro is obviously not in the same category as the trackballs, but used in addition to your mouse it can speed your editing. Either of the Microsoft models would suit most – they look sleek and curvy and work well. The Logitech Cordless Trackman FX is excellent, though the software is a problem. It's fun not to be tethered to a cord; though trackballs don't need to move around much anyway. My favourite is the Kensington Expert Mouse Pro. Drawing on 20 years of trackball experience, Kensington has added every whistle and bell to this model. It's a shame it isn't that pretty, but it beats the others hands down on functionality.

David Fanning





Digital-cameras tested

FinePix 2400

Manufacturer: FujiFilm
(020 7586 1477)

Pros: Sharp images.
Cons: Limited metering; weak flash.
Price: £379 (including VAT)
Star Rating: ★★★★★7.8

PhotoSmart 315

Manufacturer: Hewlett-Packard
(08705 474 747)

Pros: Inexpensive.
Cons: No optical zoom; noisy.
Price: £249 (including VAT)
Star Rating: ★★★★★7.2

PhotoSmart 618

Manufacturer: Hewlett-Packard
Pros: Multiple exposure modes; 16MB CompactFlash included.
Cons: Slightly noisy images; harsh flash.
Price: £399 (including VAT)
Star Rating: ★★★★★7.8

PhotoSmart 912

Manufacturer: Hewlett-Packard
Pros: Sharp images; spot metering; 16MB CompactFlash.
Cons: Expensive; heavy.
Price: £649 (including VAT)
Star Rating: ★★★★★7.2

DC3400

Manufacturer: Kodak
(0870 243 0270)

Pros: Inexpensive.
Cons: Images washed-out; slow image transfer.
Price: £329 (including VAT)
Star Rating: ★★★★★7.2

DC3800

Manufacturer: Kodak
Pros: Small; CompactFlash reader.
Cons: No optical zoom; images washed-out; pixelation.
Price: £299 (including VAT)
Star Rating: ★★★★★6.7

C-2040

Manufacturer: Olympus
(0800 072 0070)

Pros: Sharp, pleasing images; spot metering; fast f1.8 lens.
Cons: Menus are a little confusing.
Price: £499 (including VAT)
Star Rating: ★★★★★8.5

Jealous that your uncle sends out email messages with digital images of the last family gathering, his trip to Mexico, and your cousin's brand new car? With recent price drops in the cost of two-megapixel consumer digital-cameras, and a growing number of cameras to choose from, going digital has never been easier, or more tempting.

If you're considering purchasing a two-megapixel camera, it's generally because you're interested in the level of image quality that can produce adequate 8-x-10-inch printouts; otherwise, a less expensive one-megapixel camera would be better value. In addition to basic image-quality factors, such as sharpness and colour fidelity, it's important to have a decent optical zoom – especially if you plan to use your digital camera to take travel pictures. The ability to capture quality images in different lighting situations – indoors and outdoors – is also important.

In the frame

We looked at seven current two-megapixel cameras: Olympus's (www.olympus-europa.com) C-2040 Zoom; Kodak's (www.kodak.co.uk) DC3400 and DC3800; FujiFilm's (www.fuji.co.uk) FinePix 2400; and Hewlett-Packard's (www.hp.com/uk) PhotoSmart 315, 618, and 912. As we evaluated the cameras, we compared them to Canon's Digital Ixus 300, the previous top choice in this range.

The first test of a good consumer camera starts even before the first shot: its ease of use. All the cameras in this roundup, minus the Olympus C-2040 Zoom, feature on-camera menus that are intuitive and easy to use because of their clearly marked symbols. The well-organized and comprehensive Olympus instruction manual is required reading for both navigating the camera's slightly confusing menus, and taking advantage of its advanced features. Each of the HP cameras comes with a basic instruction manual and a more comprehensive CD-ROM.

Last year, Canon's Ixus 300, with its ultra-compact casing, pioneered a new standard for portability in a digital camera.



Judging from the sleek, compact design of the DC3800, Kodak seems to have taken a cue from the Ixus 300's success: the DC3800 is only a few centimetres wider and longer than the Ixus 300, and it weighs only 0.16kg without its two AA batteries.

In contrast, the HP PhotoSmart 912 is built to look like a 35mm SLR camera, complete with a full-size, non-detachable Pentax lens. The zoom control is situated on what would normally be the focusing barrel of the lens. While the body design might give regular SLR users a more familiar grip, aside from the zoom control, it doesn't add any real functionality with the added bulkiness. Weighing almost 0.64kg without batteries, the PhotoSmart 912 is about twice the average weight of the other cameras in this roundup. The DC3400, the FinePix 2400 Zoom, the PhotoSmart 315, and the PhotoSmart 618 are all of average size, comparable to popular point-&-shoot 35mm cameras; the C-2040 Zoom is slightly wider, which surprisingly results in a more comfortable grip.

Of the seven cameras we looked at, only the Kodak DC3800 and PhotoSmart 315 lack an optical zoom – a serious limitation, especially in the case of the DC3800, which carries a £299 price tag.

Price and features

The two more expensive cameras in the roundup, the Olympus C-2040 Zoom and the HP PhotoSmart 912, also have the most advanced features. Both provide the technically minded photographer the means to capture perfectly exposed shots through spot metering, auto bracketing, and multiple exposure modes. Spot metering can make a dramatic difference in tricky lighting conditions. The auto-bracketing feature – which allows for the rapid automatic-capture of a slightly overexposed and a slightly underexposed image in addition to the “perfectly exposed” original image – is helpful in perfecting shots with mixed light. If you desire creative control and know how to get the kind of exposure you want, the PhotoSmart 912 and C-2040 Zoom have aperture-priority and shutter-



Picture perfect
The Olympus C-2040 camera (top) came top in Macworld's tests. The DC3400 (bottom, left) and the FinePix 2400 produced decent images.

priority modes, which allow you to set the aperture size or shutter speed manually. Though less sophisticated than the 912 and C-2040, the PhotoSmart 618 offers two ISO options, as well as aperture-priority and shutter-priority modes. Plus, the PhotoSmart 618 and 912 come with an advantage in storage: they're bundled with 16MB CompactFlash cards, compared with the 8MB CompactFlash and SmartMedia cards of their competitors.

Bright spark

In sunny outdoor conditions, the FujiFilm FinePix 2400 Zoom produces the sharpest images and the most detail in highlight and shadow areas, with the C-2040 Zoom and the PhotoSmart 912 tying for second. The FinePix 2400 Zoom also demonstrates the most accurate colour reproduction, while the PhotoSmart 912 tends to render colours slightly flat. In comparison, Canon's Ixus 300 captures sharpness and detail, but bright areas have a tendency to block up and lose detail. The PhotoSmart 315 and 618 deliver fairly sharp images with slightly flat colours and noticeable amounts of noise, particularly the 315. Overall, images from the DC3800 suffer from noticeable pixelation and jagged edges, making some of the photos unacceptable. Both the Kodak DC3800 and DC3400 produce soft images with slightly washed-out highlights. Oddly, the DC3400 emphasizes green tones, while the DC3800 favours red tones.

In indoor conditions that require a flash, the C-2040 Zoom, the PhotoSmart 912, and the Ixus 300 produce the most pleasing images overall. In comparison, the FinePix 2400 Zoom, the DC3400, and the DC3800 have weak flashes, and their images tend to be too dark. The FinePix 2400 Zoom is,

PRODUCT NAME	FINEPIX 2400 ZOOM	PHOTOSMART 912	PHOTOSMART 618	PHOTOSMART 315	DC3800	DC3400	C-2040 ZOOM	IXUS 300
CCD RESOLUTION (IN MEGAPIXELS)	2.1	2.24	2.11	2.1	2.1	2.3	2.11	2.11
OPTICAL ZOOM	3x	3x	3x	N/A	N/A	2x	3x	2x
DIGITAL ZOOM	2.5x	2x	2x	2.5x	2x	3x	2.5x	4x
LCD MONITOR	1.6" TFT	2.0" TFT	2.0" TFT	1.8" TFT	1.5" TFT	1.8" TFT	1.8" TFT	1.5" TFT
SPOT METERING	no	yes	no	no	no	no	yes	no
FOCAL LENGTH (35MM-EQUIVALENT)	39-117mm	34-107mm	34-108mm	38mm	33mm	38-76mm	40-120mm	35-70mm
APERTURE	f3.5-8.7	f2.5-3.9	f2.4-4.0	f2.8-9.8	f2.8-8.0	f3.1-10.3	f1.8-10.0	f2.0-4.0
EXPOSURE MODES	Auto	Auto, Aperture AE, Shutter AE, Metered Manual	Auto, Aperture AE, Shutter AE	Auto	Auto	Auto	Auto, Aperture AE, Shutter AE	Auto
ISO OPTIONS	100	25, 50, 100, 200, 400	100, 200	100	100	100	100, 200, 400	100
WEIGHT (WITHOUT BATTERIES)	0.14kg	0.54kg	0.3kg	0.23kg	0.16kg	0.34kg	0.3kg.	0.19kg
MEMORY	8MB SmartMedia	16MB CompactFlash	16MB CompactFlash	8MB CompactFlash	8MB CompactFlash	8MB CompactFlash	8MB Smart Media	8MB CompactFlash

certainly, best used outdoors. In contrast, the flash on the PhotoSmart 618 is especially harsh, causing a significant loss of detail in highlight areas. Images from the PhotoSmart 315 flash are acceptable, but the overall image quality is still hampered by noise. Thanks to maximum aperture sizes of f1.8 and f2.4, respectively, the C-2040 Zoom and the PhotoSmart 618 are able to capture soft, but pleasing images in less than ideal lighting conditions – even without a flash.

Moving image

Transferring images from the camera to your Mac is easy with the FinePix 2400 Zoom, C-2040 Zoom, and all three HP cameras, since they all support USB and instantly mount on your desktop like a hard drive or a Zip disk. Although the DC3800 can't connect directly to a computer, it comes with a handy USB CompactFlash reader. Like the Ixus 300,

the DC3400 requires its included software to transfer images. However, its file-by-file transfer process can be slow, leaving you to stare at progress bars for a minute or two. If you prefer to view images on your TV, you can do so with all of the cameras except the FinePix 2400 Zoom and the PhotoSmart 315.

Batteries included

When it comes to battery usage, the convenience of the Canon Ixus 300's single proprietary battery, which fully recharges in under two hours, is still unmatched. The absence of bundled rechargeable batteries or AC adaptors, especially in more expensive and feature-rich models, such as the C-2040 Zoom and the PhotoSmart 912, forces photo enthusiasts to make an extra investment. All the cameras, except the DC3800, require four AA batteries – the DC3800 requires only two. The C-2040 Zoom

can also accept two Lithium batteries. There are many things to consider when shopping for a digital camera: feature set, image output, power, and performance in low light, to name a few. Of the seven cameras in this roundup, the Olympus C-2040 Zoom stands above the rest, but many of the other offerings are also worth a look.

Macworld's buying advice

If superior image quality, spot metering, and manual exposure modes are priorities, Olympus's C-2040 Zoom is a versatile camera that delivers solid performance and an excellent set of features. If ease of use is what you're looking for, Canon's Ixus 300 remains unrivalled in its balance of style, convenience, and performance; and its competitive pricing makes it an outstanding value.

Bonnie Huie



Snap shot
From top to bottom: Kodak's DC3800 and HP's PhotoSmart 315, 912 and 618.



Maths learning aid

Number Plane

Publisher: Sherston Software
(01666 843 200) www.sherston.com

Pros: Makes maths fun.
Cons: Pupil performances not recorded.
Min specs: System 7.1; CD-ROM drive; 4MB of RAM.
Price: £50 (including VAT)
Star Rating: ★★★★★7.1

Number Plane is a teaching aid for six and seven year-olds. It offers 21 practical and oral activities that have been designed with the aid of

the National Numeracy Association – which helped to formulate the national numeracy strategy for schools.

Learning takes place in a fantasy airport, the departure lounge of which is like something from *Men in Black* – peopled by doughnut dragons, sick hedgehogs, strange aliens and a pop singer called Debbie Diamond. Each set of characters represents a discipline. These include multiplication, division and fractions. The airport theme is tenuous, with most of what follows being unrelated. It's colourful, though, and the lessons are absorbing, as well as instructive. The CD is narrated by Murphy Mouse, who invites the pupil to board the

ChedAir flight with his or her character of choice. The ensuing lesson is then narrated by Murphy, who prods a kid in the right direction after a wrong answer.

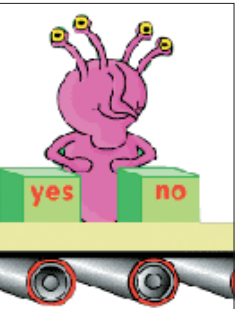
For teachers, there's also a large collection of resource sheets for multi-pupil non-computer classwork.

Macworld's buying advice

With three levels of difficulty and an option to reduce or increase levels of play in games, this CD is capable of sustaining a pupil's progress in maths for a year. The only drawback is its lack of an option for teachers to save and then monitor individual pupil's lessons.

Sean Ashcroft

Doesn't add up
An alien baggage-handler is just one of the methods used in Number Plane to make maths fun for youngsters.





Music mixer

Pro Tools TDM

Publisher: Digidesign (01753 653 322)

www.digidesign.com

Pros: Completely integrated surround-sound; raft of interface enhancements; great new MIDI features.

Cons: Some new features need further refining.

Min specs: Check Web site for a long list.

Price: There are several PT 5.1 upgrade options: TDM, £229; LE for Digi 001 or Toolbox (Audiomedia III), £39 (all prices exclude VAT).

Star Rating: ★★★★★/8.5

On the beat

The sexiest new feature in PT 5.1 is the Beat Detective (below, top). This analyzes and corrects timing in performances that have strong transient points, such as drums, bass and rhythm guitar. It allows the user to define a tempo map from a performance, or to conform the performance to a tempo map by separating it into regions and aligning it to the beats.

The MIDI editing window (below, bottom) offers an array of options, including shuffle, spot, slip and grid.

Pro Tools (PT) 5.1 is here at last. The big news is that you get built-in multi-channel mixing, panning, and processing features. You can use these features to create surround-sound mixes for films and DVD discs.

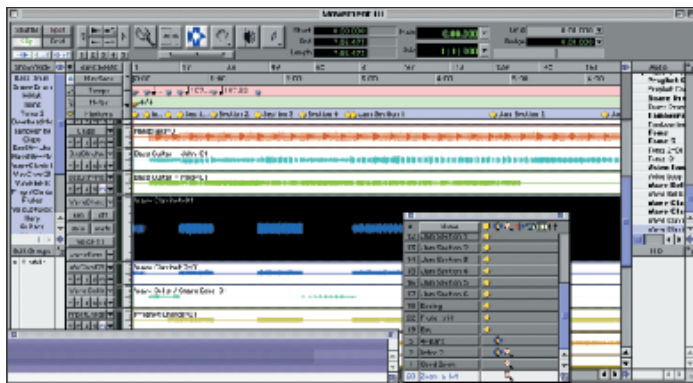
Not only can you mix in every popular surround-sound format – including Left Centre Right Surround (LCRS) 5.1, 6.1 and 7.1 – you can also work in several formats at the same time, by assigning multiple outputs and send destinations for each audio channel.

Once your surround mix is complete, you can deliver several versions simultaneously by assigning tracks to multiple output paths at the same time. For example, if you're working on a LCRS 7.1 mix, you can set up Pro Tools to also give you outputs for, say, a 5.1 and a stereo mix.

However, these multi-channel formats are available only if you have a TDM system using MIX cards – not for older PT24 or PTIII systems, or for the LE software that works on the Digi 001 or Audiomedia III cards. What you do get with all 5.1 systems is stereo tracks – which most users have been crying out for.

Tracking change

Another extremely useful development allows you to open and work with offline media. PT 5.1 can now open and modify a session, even if all the audio or video files for that session are not currently available. And, any edits that you make to tracks containing offline media are reflected in the session when the files are available again. Sessions must have been created with version 5.1 or greater for this



View to a thrill

A lot of thought has gone in to improving the Pro Tools' user interface for version 5.1. There've been several enhancements – especially with shortcuts – that will speed up workflow.

feature to work – but this enhances the possibilities for moving your session around onto different systems. Also, to conserve DSP resources in a session, tracks, I/O assignments and plug-ins can now be set to inactive. Inactive items retain their various settings, routings and assignments, but are taken out of operation – freeing the DSP they were using for other uses. The original settings will remain saved, so you can always see what you've deactivated and return to these at any time.

Even better, when you move a Pro Tools session to a system that has different plug-ins and I/O configurations, PT 5.1 will automatically deactivate tracks, plug-ins, sends, or I/O channels as necessary. At the same time, it will let you preserve your original session settings, so you can return to them when you move back to the original system.

Multi-processing

PT 5.0 now allows you to open multiple plug-in windows – previous versions allowed you to open only one at a time. Also, TDM systems can now run both TDM and RTAS plug-ins simultaneously. This allows you to use the computer's CPU to process your audio, as well as the DSP, on Pro Tools' cards.

The MIDI features have also been improved, through the addition of a List edit window. Here, you can view a list of the MIDI events recorded into any MIDI track, and edit these numerically – which can often be a lot quicker than editing graphically.

Unfortunately, although you can record SysEx data, you cannot edit this. Also, the Split Notes command, which lets you take selected notes out of a track and paste them into another track, would not work properly for me. With the Grabber tool selected, it would cut the notes from a track, but wouldn't let me paste them into a new track until I

changed to the Selector tool. Still, I expect that Digidesign will sort out issues such as these, and add further improvements to the MIDI function in a later version.

The user-interface has been given some thought in version 5.1. Two great new keyboard shortcuts really speed up your work. Track Toggle lets Audio tracks toggle between the Waveform and Volume view, while MIDI tracks toggle between Notes and Regions views. Just click in the track you want to toggle, shift-clicking to select multiple tracks if required, then press control-minus (-) simultaneously.

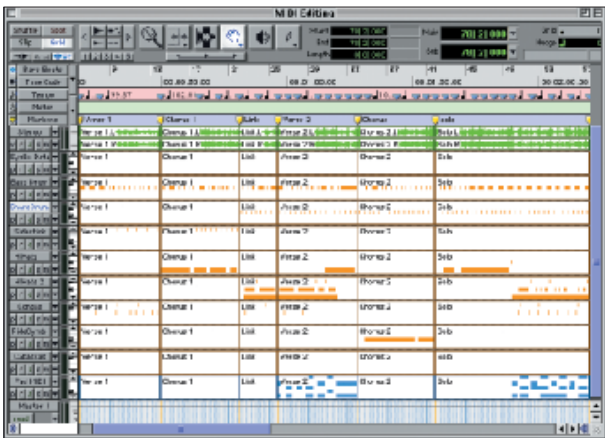
Similarly, you can toggle between two views of a selection in the Edit window – adjusting the zoom level and track height automatically. Select one or more tracks then press control-E, and the selection will zoom to fill the Edit window. At the same time, the tracks containing the selection will be set to a track height of Large – with MIDI tracks automatically set to Notes view.

Version 5.1 includes many other useful editing operations, including multiple undos, Tab to Transient for creating easy loops, and a Universe Window overview that allows you to quickly move to any point in your session. It also has Auto Save capabilities that save your session at user-defined intervals. Finally, Web programmers will be pleased to note that Pro Tools now supports Real Audio G2 export, MP3 and QuickTime audio import and export.

Macworld's buying advice

If you're working with surround sound, this upgrade is essential. For many users working with MIDI, the new List editor will be a strong attraction. And, everyone is going to like the Beat Detective – this one feature is worth the cost of the entire upgrade.

Mike Collins





3D-action game

Oni

Developer: Bungie/Gathering of Developers

www.godgames.com

Distributor: Softline (01883 745 111)

Pros: Excellent player control; entertaining story; no gore.

Cons: No multiplayer support; clunky key configuration.

Min specs: 300MHz PowerPC 603 processor; 64MB of RAM; Mac OS 8; 3D-video card; 800MB of hard-disk space.

Price: £35 (including VAT)

Star Rating: ★★★★★/8.6

Oni: This word from Japanese folklore denotes a creature of great size and strength with a fearsome appearance. It's also the title of Bungie Software's long-awaited 3D combat-action game, published for the Mac by Gathering of Developers. But who or what is the oni in this game? Is it your lithe and limber alter ego, Konoko, or someone or something else? You'll have to find that out by playing.

Oni takes place in a dystopian future's giant metropolis, which is rendered in true Japanese anime style. Konoko's training as a special agent enables her to infiltrate the activities of the Syndicate, an underground crime ring. Headed by Boss Muro and populated by legions of cybernetically enhanced thugs, the Syndicate traffics in illegal technology and works insidiously toward global domination.

Oni me!

Soon Konoko discovers that defeating the Syndicate won't be as easy as she thought. She uncovers mysteries within mysteries, some involving her background — who she is and where she comes from become an integral part of the plot. The tale works like origami, with fold after fold adding complexity. Despite Konoko's single-minded focus on taking Muro off the streets, Muro apparently wants to keep her around. Why? What connection do they share? And can she trust those with whom she works most closely?

As those who know me can attest, nothing about Peter Cohen says delicate. I'm big and clumsy.

I tend to frighten small children, animals, and Macworld Expo attendees — maybe I'm the oni. That's why for me, Oni offers pure escapist entertainment. Konoko, whom you control throughout the game, has the agility of a gymnast, the stamina of an Olympic distance runner, and the stealth of a jungle cat. For a big ol' schlub like me, slipping into

Konoko's shoes is an exotic treat. As Konoko, you must infiltrate heavily fortified buildings bristling with well-armed guards and automated defence systems. The 3D action takes place from a third-person perspective, with the "camera" generally positioned behind and above Konoko's body.

Fluid motion

You certainly have no shortage of futuristic weapons at your disposal, but Konoko's real strength is in the martial arts. You start the game with a variety of moves — kicks, punches, and throws — and at various points you learn more-advanced techniques. Oni has some of the most fluid player control I've ever seen. By combining different keystrokes, you can make Konoko execute powerful moves. You'll find a library of these in her diary, which you can access with a click of the mouse while playing. Also, look for detailed information about weapons, special items, and Konoko's objectives through the in-game help screen.

Like Tomb Raider, Oni emphasizes stealth and planning over raw firepower. You must think through situations rather than just reacting, and you'll also have to solve a few puzzles along the way. Like Unreal Tournament, it has no shortage of action. However, unlike both these games, Oni is free of gore and bloodshed. The story is written to appeal to an adult sensibility, but without strong language or 18-rated imagery. When Konoko and her opponents come to blows, you'll see bursts of light — but no blood. Some hard-core gamers may be disappointed, but this certainly makes Oni accessible to a larger audience. If you're a parent, rest assured that the action here is at the level of a Saturday morning cartoon — your kids won't encounter any gruesome showers of body parts.

Konoko walks through and around skyscrapers, warehouses, and low-rise buildings. The imaginative ornamentation

of mediaeval castles or giant spaceships you find in other games is absent here.

Oni is all about close-quarters action, not sightseeing. However, some of the large open spaces in Oni can put a strain on Macs at the low end of the game's system requirements. Make sure to check these before you plunk down your money.

So what's wrong with this game? The lack of network support hurts its long-term playability. If you'd hoped for some chopsocky action against your Internet buddies or other folks in the office, forget it. That's a shame, because multiplayer support can keep a game fresh long after you exhaust its single-player possibilities. Oni does have user-adjustable levels of difficulty, however, so you can play it at a few different settings to test your limits.

Oni lacks the ability to save games at any time, opting instead for a system that lets you save only at preset points in each chapter. You may be annoyed that you have to make Konoko jump off the same roof over and over, but you're rewarded with a very clear index of saved games that positions you at key moments.

You can tweak audio and graphics settings, video resolution, and difficulty level on Oni's main screen, but the method for customizing control keys is obtuse; rather than making it an in-game option, as most games do, Oni forces you to launch the game while holding down the shift key to remap commonly used keys. Alternately, you can customize Oni's controls by using a text editor to edit a game file. But what is this, Windows? This feature should be out in the open.

Macworld's buying advice

Though it lacks multiplayer support and has a quirky approach to customizing keys, Oni's almost flawless execution of hand-to-hand combat makes it a remarkable game. Oni provides an excellent way to lose yourself for a week or two in a fun adventure.

Peter Cohen

Oni you

Oni's 3D environment may look sparse, but that's because all your processor power is going into animating the characters' movements.

Tricks and tips

Try these tricks to keep the baddies at bay:

■ *Oni's camera control system often allows you to see through walls and around opaque objects. This can help you spot trouble before it spots you.*

■ *Konoko can change direction when she's jumping. This little trick enables her to descend flights of stairs quite rapidly, and it occasionally comes in handy in combat.*

■ *Sometimes it's safer to reload Konoko's weapon in a quiet spot — even if it means wasting a round or two — to avoid having to reload during a firefight.*

■ *Keep as many hypodermics on Konoko as possible. That way, you can activate her Daodan power when you need it most — when she's about to take on a crowd of angry thugs, for example.*





Flash 5 tutorials

Macromedia Flash 5 Visual

Author: Katherine Ulrich
Publisher: Macromedia Press and Peachpit Press
Pros: Very basic; easy to understand.
Cons: No interesting examples; boring black-8-white screenshots.
Price: £23
Star Rating: ★★★★★/7.8

Macromedia Flash 5!

Author: Derek Franklin and Brooks Patton
Publisher: Macromedia Press and Peachpit Press
Pros: Clearly laid out explanations; section on colour examples from real-life Flash projects.
Cons: Prepare yourself for a lot of reading.
Price: £30
Star Rating: ★★★★★/7.9

Flash Web Design

Author: Hillman Curtis
Publisher: New Riders Publishing 2001
Pros: Well presented book; a designer's reference.
Cons: Explanations can be vague.
Price: £35
Star Rating: ★★★★★/8.3

Flash 5 Magic

Authors: J Scott Hamlin and David Emberton
Publisher: New Riders Publishing 2001
Pros: Easy to work through.
Cons: Tutorials are brief.
Price: £35
Star Rating: ★★★★★/8.3

Macromedia Flash Advanced

Author: Russell Chun
Publisher: Macromedia Press and Peachpit Press
Pros: Takes skills to the next level.
Cons: Not for newcomers to Flash.
Price: £23
Star Rating: ★★★★★/8.1

Classroom and one-to-one training can be expensive. When most computer users decide that they need to learn a new skill or new piece of software, something more than just its accompanying manuals is a must.

As fewer software publishers are including paper-based manuals with their programs, more how-to books are being written by third parties. *Macworld* looked at five Flash 5 help books by different publishers to weed out the useful from the useless. Some of them even come with software and tutorials on a CD-ROM. I've started with the least advanced book.

Flash tends to be intimidating to new users, and that's who the *Macromedia Flash Visual QuickStart Guide* is aimed at. Alongside the tutorials provided with Flash 5, it's always useful to have an extra source of hints, tips and in-depth tutorials. This book claims to teach you Flash the easy way: by concentrating on providing pictures rather than text. However, there may be plenty of screenshots, but there's also loads of text to wade through.

QuickStart Guide is good when explaining the basics of Flash – from creating basic graphics to how to use the Timeline efficiently, to describing each and every tool in detail. Everything a beginner needs is covered.

Animation techniques are also included – from motion and shape tweening, object interactivity, and frame-by-frame animation.

Next up is *Macromedia Flash 5! Creative Web Animation*. Written by two well-qualified Flash developers, Derek Franklin and Brooks Patton, this book takes you through Flash 5 from a beginners level to advanced. With 16 chapters covering many aspects of Flash – from basic animation, adding interactivity and ActionScripting, to finding your way around the improved user interface in Flash 5 – this book provides easy-to-understand explanations.

It also gives time-saving methods to use when planning Flash projects, and warns when a tip may need extra processor power – or when it is advisable to use different methods of animating in order to gain a required effect without its associated problems.

A multi-award-winning US design consultant, Hillman Curtis's *Flash Web Design – the art of motion graphics (the v5 remix)* is slickly designed. The book takes apart useful examples of motion-graphics projects to see the structure and design principle used in a specific, real-life brief.

Though the title of the book is *Flash Web Design*, several additional

technologies are covered to varying degrees – such as encoding and streaming MP3 audio, preparing video for use in Flash 3D modelling, optimizing and testing. All examples are taken from real life, and the chapters have a logical layout. The technology explanations are easily understandable, and the use of illustrated examples clear. Practical advice on the hardware needed to produce professional projects is also included.

Hillman Curtis writes about his own philosophy on design, with particular emphasis experimenting with different techniques.

In *Flash 5 Magic with ActionScript*, the code that makes possible most of the interactivity you find in Flash Web sites is dissected. Similar to JavaScript, ActionScript is a programming language that enables Flash developers to add complicated interactivity to projects – including database connectivity. Even JavaScript coders will have a few teething troubles when first working with ActionScripts. However, this book takes you through the planning process, and uses real-world examples of techniques that can be used in e-commerce and educational design.

Flash 5 Magic is well-designed, and makes a nice change from the severe serious-programmers help books that seem to be the norm. Flash 5 Magic has well laid out and planned chapters, and is targeted at a high skill-level. This means that shorthand is used for some of the tutorials, which could confuse less-advanced users.

Macromedia Flash Advanced, as the title suggests, has a steep learning curve. But, as you progress towards becoming proficient in the application, an advanced guide is a helpful stepping-stone. If you want to improve your Flash skills – and have already mastered all the basics of animation, tweening, sound and video – then this book guides you through the use of ActionScripts to control graphics, movies or other objects within Flash to create a complete user environment.

Creating application programs in Flash – such as arcade games, complex drop-down menus and forms – is difficult to do without an advanced knowledge of ActionScripts. To use this book, you should already know most of the basics in Flash – at least up to motion tweening, Symbol editing, manipulating layers and frame-by-frame animation. The book suggests advanced animation strategies, and explains how to begin constructing ActionScript components to add interactivity to movies. *Flash Advanced* also looks at the typical communication issues a Flash designer should be aware



of when working with browsers, external files and applications. The final chapter focuses on storing, modifying and displaying database information through Flash projects. The bundled CD includes nearly all the Flash source files for the tasks set in the book.

To get the most out of this *Flash Advanced QuickPro Guide*, you should ideally have worked through the tutorials and projects in the *QuickStart Guide* reviewed above.

Macworld's buying advice

The five books here are aimed at different skill-levels. The manual-style books – such as *Macromedia Flash*, *Macromedia Flash 5!*, and *Macromedia Flash Advanced* – are all excellent references for beginners and pros alike. *Flash Web Design – the art of motion graphics (the v5 remix)* and *Flash 5 Magic with ActionScript* are for experienced Flash designers who want creative inspiration.

Gillian Thompson





AirPort alternative

SkyLine PCI Card

Manufacturer: Farallon
www.farallon.com

Distributor: Softline
(01372 726 333)

Pros: Gets older desktop Macs wireless.

Cons: Only supports AppleTalk over IP; more expensive than AirPort.

Price: £50 (excluding VAT)

Min specs: PCI slot.

Star Rating: ★★★★★/7.0

NetLine Wireless Broadband Gateway

Publisher: Farallon

Distributor: Softline

Pros: Easy wireless Net access

Cons: AirPort is cheaper.

Price: £240 (excluding VAT)

Min specs: Ethernet

Star Rating: ★★★★★/6.5

Farallon introduced the SkyLine range of wireless products before Apple introduced the AirPort. The latest additions to the range include a PCI card and NetLine, a broadband gateway that also acts as a wireless hub.

The AirPort is an Apple product, and is extremely simple to use. The SkyLine is a little less straightforward, but no big deal. The instructions are clear and helpful, so anybody who can connect a normal network should have no trouble setting up a wireless one.

However, unlike AirPort, SkyLine doesn't do communicate using AppleTalk. It offers communications over IP only – though AppleTalk over IP is fine, normal AppleTalk isn't supported.

Where SkyLine really comes into its own is when you connect to the NetLine Wireless Broadband Gateway. This connects to an ADSL or cable connection, and lets you connect to it wirelessly. BT's ADSL connection doesn't let you use the Farallon box as the broadband gateway, but you can still use it with the ethernet version. You simply connect the NetLine box to your machine to set the IP address, then hook it up to the BT router.

I tried the whole setup running a Power Mac G4 466, a PowerBook G3 and

an older PowerMac 7500. The G4 was connected with ethernet, and the other two machines were using SkyLine cards. The NetLine WBG lets you connect as many SkyLine or AirPort cards as you like – though the bandwidth will suffer if too many people are sending big files. But, it's no big deal to add another NetLine WBG.

Pre-AirPort-ready desktop Macs can now take advantage of the SkyLine PC card by using the new PCI adaptor. You add the PCI card, which then provides a slot for the SkyLine card. Before this, I was sceptical of the usefulness of making a desktop Mac wireless. However, the speed has improved and the price has fallen enough to make it worthwhile. Considering the cost of professional custom cabling, wireless is becoming more attractive the cheaper it gets.

Macworld's buying advice

There are situations where wireless communications are not the answer, however. Printers must support IP to be used wirelessly, which means mostly newer laser printers. Also, if you are throwing around big graphics or video files, wireless won't be up to the job. Shared Internet access is an ideal

application, and sharing small files works. But wireless isn't about to completely replace cables just yet.

Although the SkyLine products are excellent and do all they claim, the price is more than that of an AirPort card. This is fine if it adds to a pre-AirPort Mac, but not the best choice if your PowerBook has AirPort capability. Similarly, the NetLine WBG does have some features over and above the AirPort Base Station, but only for broadband users that don't use BT ADSL. So, if you're on an older Mac, using the SkyLine PCI carrier card and the SkyLine card, you can join in the wireless fun. It will cost a little more, but it's worth it.

David Fanning



Broadband Net access

blueyonder

Manufacturer: Telewest
(0800 953 5000)
www.blueyonder.co.uk

Pros: Fast; stable; cheaper than ADSL.

Cons: It's available only to 4 million UK households.

Min specs: A Telewest cable account; Mac OS 8.1 or later.

Price: £33 per month plus £50 installation fee. (excluding VAT)

Star Rating: ★★★★★/9.1



Telewest's cable Internet service, blueyonder is available now to four million UK households from the company and its subsidiaries – including Cable London.

It offers download speeds of 512K, or up to ten times faster than a dial-up modem, and upload speeds reach 128K. And, because it's an always-on Internet connection, the service also dispenses with the time-consuming dial-up, log-on and authentication processes that plague dial-up users.

Installation was a dream. I ordered the service on Wednesday, and it was installed just three days later – though

Telewest warn that there can be up to a two-week delay before installation. As I'm an existing Cable London customer, all it required was the installation of a digital receiver where the Cable London line came into the house. Telewest also installs a signal splitting device in the room where the modem will be placed, but attached to the existing cable TV circuit. The modem was then plugged in to my ethernet port and the Mac's TCP/IP and AppleTalk Control Panels were set. The entire process took one hour.

Blueyonder offers unmetered and unlimited Internet access at high bandwidths, 24 hours per day for £33 per month. The modem can also connect via USB, though Telewest engineers said the drivers for this service had not yet been delivered. Anyway, all Macs manufactured in recent years have built-in ethernet that offers faster transfer speeds than USB. For this, you get free use of blueyonder as an ISP, support for up to five email addresses and 30MB of Web space.

Once installed, you can enjoy the Internet the way it should be. Online gaming ceases to be an expensive luxury, MP3 downloads speed along, and streaming movies and news content is accessible without the data packet loss that affects dial-up connections.

I tested this by hosting a series of

Myth II multiplayer games on Bungie.net. The feedback from my guests for my connection speeds was positive.

I downloaded a number of MP3s – purely for bandwidth-testing processes – and software try-outs and plug-ins. An 8.5MB download took just three minutes according to Internet Explorers' Download Manager. Mail downloads are extremely fast even with large attachments, and sending email is swift too. Web sites download faster than my 300MHz iBook can render them.

Macworld's buying advice

If you pay about £10 for an ISP, and over £20 per month for dial-up telephone charges you should consider blueyonder – which offers subscribers a free ISP. It's eminently suitable for heavy Internet users, and competes favourably with BT's ADSL service for business users. The blueyonder-provided Motorola SURFboard modem (pictured) will connect to an ethernet router and support multiple Macs in small offices – though blueyonder doesn't officially support this. If you're lucky enough to be in an area supported by Telewest and are looking for high-bandwidth Internet access, this is it. It's cheaper to run, easy to install and offers a better user/modem (contention) ratio than BT's ADSL 500 service.

Jonny Evans

Are you
ready for...

OS X

?



...Macworld Lab helps you decide. By Henry Bortman

Usually, when Apple releases a new version of the Mac operating system, the questions you have to ask yourself are: Am I ready? Do I have the right model Mac? Is upgrading worth the cost? (In OS X's case, that's £99 inc. VAT.) All of these questions apply to Mac OS X, but this time there's another, equally important question to ask yourself: is Mac OS X ready for me?

This is a brand-new Mac OS, built from the ground up. There's a chance that it will run your current applications more slowly (or not at all), that your external hard drive or printer will be incompatible with it, and that it will be unbearably poky. Macworld Lab hooked-up dozens of peripherals to see which ones worked with OS X. We compared the speeds of applications running in Mac OS X and OS X's Classic environment – which lets you run Mac OS 9 applications within OS X – with those of applications running in OS 9.1. (See "A perfect 10?" for details.)

So, should you upgrade? Let's examine all the factors that will affect your decision.

Tomorrow's Mac

There are many reasons to switch to Mac OS X. First, it's the future. This summer, Apple will begin shipping all Macs with OS X installed. Apple will continue supporting OS 9 on older machines for some time, but OS X will be the focus of all future improvements to the Mac.

That's a good thing. OS X is a delight to look at. Sit in an Internet café with OS X running on your PowerBook – make sure you're positioned so that other people can view your screen – and you'll see what I mean. People notice OS X.

But OS X's beauty is more than skin deep. It's built on a solid foundation: Unix. As a result, Mac OS X should prove more crash-resistant than previous versions. OS X also takes advantage of multiple processors better than OS 9 ever has. Users of dual-processor machines should eventually feel an overall performance boost in day-to-day work.

Like a rock Perhaps the most important reason to switch to OS X is an invisible one: stability. The new operating system does away with extensions and control

▶ page 80

panels, which are often the cause of crashes. Moreover, when an OS X-native application does crash, the operating system and other active applications keep running – most of the time – so you don't have to reboot your Mac. When applications running in Classic crash, however, they can hang-up the Classic environment and all programs running within it. But as more OS X-native applications become available, crashes should be few and far between.

To help you avoid system meltdowns, Mac OS X provides a new version of the Force Quit feature. If an application freezes or seems to be endlessly spinning its wheels, pressing \mathbb{H} -option-escape will start the Force Quit utility, from which you can shut down not only the troublesome application but also any running applications. You can also quit the entire Classic environment.

Aqua appeal The most obvious reason to switch to OS X is its interface. Aqua is arguably the best-looking computer user-interface ever designed. It takes advantage of the PowerPC G4 microprocessors' computational muscle to provide smooth antialiased text, transparent windows and menus, and animated interface elements. Some people – I'm one of them – think Apple has gone a little too far in the eye-candy department. But even we curmudgeons have to agree that Aqua is a thing of beauty and a joy to behold.

As well as Aqua's luscious look, Apple has brought a lot of changes to the way users interact with their Macs.

What's missing

With all the OS X plusses, why should you wait to switch? Three reasons: performance, applications, and drivers.

Performance It's a bit early to make definitive pronouncements about OS X's performance. Its real benefits will be known only after the arrival of OS X-native versions of applications, which take full advantage of the OS. For now, most must run in Classic mode. But we do have some preliminary results to report.

Most people who have loaded OS X will tell you that the Finder "seems slow". Our tests confirmed this. Timed against the Finder in OS 9.1, OS X's Finder made a disappointing showing when we asked it to open about 200 folders. Running OS X on G4 systems did close the speed gap significantly, and even on G3 systems, increasing RAM from 128MB to 256MB improved scores substantially. See "A perfect 10?" for more test results (only for Macs with

a minimum of 256MB of RAM).

In most Adobe Photoshop tests – Photoshop runs only in OS X's Classic environment – OS 9 had an edge over OS X that ranged from slight to significant. Here, too, performance improved greatly on the G4 systems. In our Microsoft Excel test, a spreadsheet calculation took anywhere from two to four times as long in Classic as the same calculation in Mac OS 9.1 straight up. Ouch!

OS X showed promise in one area: scrolling through a PDF document. This test showed us some of the potential of OS X-native applications. Because graphics in OS X are based on PDF, scrolling through a PDF document was at least twice as fast in OS X as in OS 9.1.

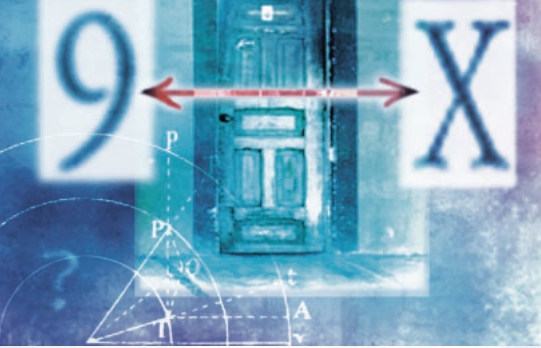
OS X seems optimized to take advantage of the G4's AltiVec instructions. (AltiVec is a set of PowerPC instructions paired with a vector-processing unit that enables a G4 chip to perform calculations on up to 16 data elements simultaneously – in applications written for AltiVec). But OS X also appears to like lots of RAM. When we installed OS X on several Macworld systems, we found that Macs with less RAM slowed to a crawl when asked to do difficult tasks, or multiple tasks at once.

Applications As we went to press, few popular programs had been upgraded to take advantage of OS X's new features. Most widely used applications won't be available in Mac OS X-native versions until summer or autumn. (See News, page 25).

You can run OS 9 applications in OS X's Classic mode – but why bother? Doing so won't give you any of the advantages of Mac OS X, and programs often run more slowly. It's true that you can switch back and forth between Mac OS 9 and Mac OS X as necessary. But would that really be an improvement?

Drivers A less obvious problem with OS X is the lack of native hardware-drivers. Drivers are special pieces of software that handle interactions between your Mac and the things attached to it. Without them, many of your peripherals won't work. Devices awaiting OS X-native drivers include many printers, scanners, RAID arrays, CD and DVD drives, video-capture cards, cameras, and fax modems.

With the new OS, Apple provides built-in drivers that support many popular USB ink-jet and laser printers, USB



and FireWire hard-disk drives, and USB digital cameras. In our tests, all of these devices worked as expected. Printing went smoothly, we were also able to both attach and detach drives without a single problem, and our Olympus E-10 digital camera worked just fine with Mac OS X's Image Capture application.

We had mixed results with USB scanners. Our Canon CanoScan FB630Ui scanner worked with applications running in the Classic environment – we had no OS X-native applications to test it with – but our Visioneer Strobe Pro NT didn't.

We were able to get three FireWire camcorders – a Sony DCR-TRV320, a Sony DCR-TRV11, and a Canon Elura – to work with the newly released OS X-native version of iMovie. They wouldn't work with Final Cut Pro running in Classic (Apple does warn that Final Cut Pro isn't supported by Classic). Other consequences of the driver problem may not be evident at first. For example, you can't run Retrospect Backup in Mac OS X. Before you perform a backup, you need to reboot your Mac in OS 9.1: no Mac OS X-native drivers are available yet for the dozens of different devices used during backup operations. Retrospect does have a Mac OS X client, so over a network, you can back up Macs running OS X if the backup process is controlled from a Mac running OS 9.

What it all means to you

Here's how these collective limitations might well affect the different groups of typical Mac users.

1 The creative professional Graphics pros will certainly appreciate the stability of OS X, but only when the applications they use are available in OS X-native versions.

The two most important applications in desktop publishing are QuarkXPress and Adobe Photoshop. Quark has given a sneak peek at an OS X-native version of XPress but hasn't said when it will be available. Adobe has been even more secretive: the company showed Photoshop running under OS X very early in the new operating system's development cycle. But now it will say only that the next major release of Photoshop will be OS X-native – no word on when that program will ship. Adobe's position is similar for Illustrator, InDesign, GoLive, and AfterEffects.

Then there's the scanner problem. If you want to get

traditional paper-photographs into a page layout, either for print or for the Web, you need a scanner. But a scanner requires a scanner driver: while some USB scanners' drivers appear to work in the Classic environment, SCSI scanners need native-OS X drivers to work with applications running in OS X and in Classic.

Many graphics professionals use AppleScript to automate their workflow, and they could have problems moving their scripts to OS X. AppleScript works for applications running in OS X or Classic. The OS X Finder, however, is not as scriptable as the OS 9 Finder, so scripts that invoke Finder functions may break under OS X.

Suppose you're designing only Web pages – doing no pre-press work – and that you use Macromedia's Dreamweaver and either Fireworks or Adobe ImageReady. All of these programs will run under Classic, but neither Adobe nor Macromedia has announced dates for delivering OS X-native versions.

For all creative professionals, the hidden demon of OS X is fonts. Those available to your OS X-native applications are the ones installed in your OS X System folder, while the fonts available to applications running in Classic are installed in your OS 9.1 System folder.

These two folders are completely independent of each other. From Classic, programs can't see the fonts you have installed in OS X, and OS X-native programs don't know what fonts you have installed in OS 9.1. If you want a font to be available in OS X and its Classic environment, you must install it twice.

The verdict If you earn your keep churning out graphics and designs, whether for print, video, or the Web, there's no good reason to move to OS X yet. In fact, when it comes to just about anything you need – applications, scanner or camcorder support, AppleScripted workflow, fonts – OS X will bite you. Your livelihood depends on your Mac. It's working fine with OS 9, so stick with it for now.

2 The small-business owner If you own a small business, you probably use applications such as Microsoft Office, MYOB AccountEdge, FileMaker, and Power On Software's Now Up-to-Date & Contact. Perhaps your Mac doubles as a fax machine. How would you fare with OS X?

Microsoft has announced that Office won't be available for Mac OS X until the autumn. This means that if you

A perfect 10?

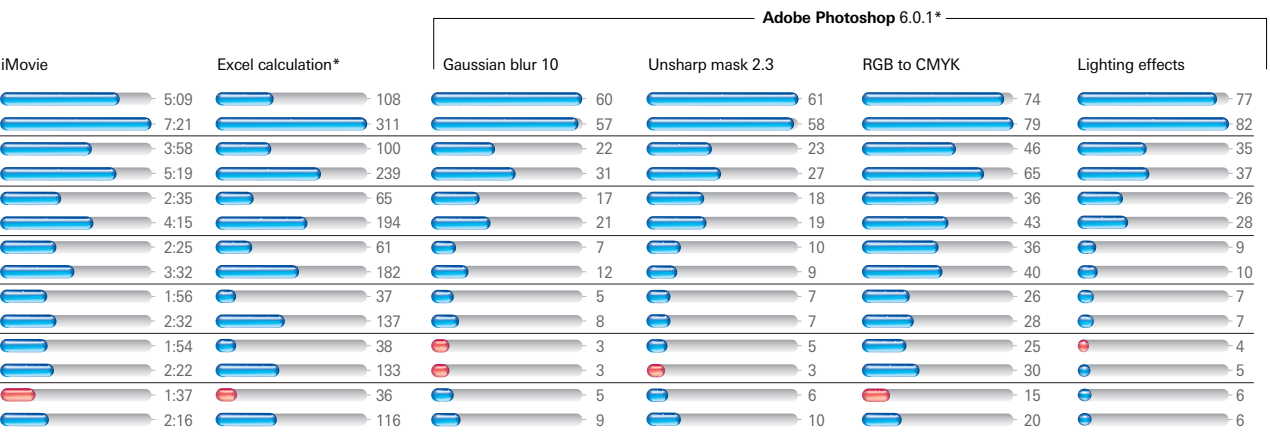
Best results in test. Shorter bars and quicker times are better.

Performance compared:

	Open multiple folders	Scroll PDF	FTP download	Cinema 4D XL (6.209)	iTunes
Apple iMac 233 (revision B); OS 9.1	25	100	34	31:50	3:35
Apple iMac 233 (revision B); OS X	62	48	59	38:01	7:07
Apple Power Mac G3/300 (beige); OS 9.1	25	82	139	24:23	4:27
Apple Power Mac G3/300 (beige); OS X	52	41	92	28:15	5:10
Apple PowerBook G3/400 (Pismo); OS 9.1	23	54	33	19:10	3:54
Apple PowerBook G3/400 (Pismo); OS X	37	25	39	22:47	4:04
Apple PowerBook G4/400; OS 9.1	22	53	33	17:20	2:35
Apple PowerBook G4/400; OS X	30	21	45	17:30	2:43
Apple Power Mac G4/533; OS 9.1	19	38	34	12:39	2:01
Apple Power Mac G4/533; OS X	22	15	31	12:56	1:58
Apple Power Mac G4/533 DP; OS 9.1	19	37	33	6:16	1:50
Apple Power Mac G4/533 DP; OS X	21	15	34	6:35	1:29
Apple Power Mac G4/733; OS 9.1	18	32	33	10:15	1:23
Apple Power Mac G4/733; OS X	19	15	29	10:15	1:36

Behind our tests

We tested seven Macs to see if they performed tasks faster when running Mac OS 9.1 or when running Mac OS X. We tested applications that ran in OS X and applications that ran in OS X's Classic environment. Tasks performed in Classic almost invariably took more time than equivalent tasks in OS 9.1; and even with native applications, OS X often showed little speed advantage. One clear exception was scrolling through a PDF document: PDF is OS X's native graphic format.

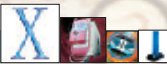
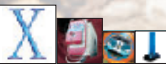


Behind our tests

Scores are in seconds. Cinema 4D XL, iTunes, and iMovie scores are in minutes:seconds. We tested each system with Mac OS 9.1 on one partition and Mac OS X on another, 256MB of RAM, a default system-disk cache, and virtual memory disabled (in OS 9.1). We set displays to 1,024-x-768-pixels resolution and 24-bit colour. For the PDF scroll test, we used Adobe Acrobat in Mac OS 9.1 and the Preview application in OS X. Photoshop tasks involved a 50MB file. In OS 9.1, we set Photoshop's memory partition to 150MB and History to Minimum. With Cinema 4D

XL's memory partition set to 80MB in OS 9.1, we rendered a model at a resolution of 640-x-480 pixels, with oversampling set to 4-x-4. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds long and converted it using the 128Kbps setting in iTunes 1.1. We exported a 240MB clip to a small QuickTime file with iMovie. Macworld Lab testing by Ulysses Bravo and Macworld Lab staff

* We performed these tests in Mac OS X's Classic environment.



When should you switch?

Save yourself a headache: don't switch over to Mac OS X too soon. Here are some pointers that will help you avoid making a premature transition.

Step 1: Check your hardware Mac OS X runs on any Apple Macintosh that shipped with an Apple-installed G3 or G4 processor, except the original PowerBook G3. It isn't officially supported on clones (or on older Apple Mac models) that shipped with PowerPC 601, 603, or 604 processors and were later upgraded to a G3 or G4. Unsurprisingly, OS X performs better on a G4 machine than on a G3. It's optimized to take advantage of the G4 processor's AltiVec instructions, for carrying out multiple computations at once. And Apple recommends 128MB of RAM, but you'll probably want at least 256MB. Many supported Mac-models shipped with only 64MB (or even 32MB) of RAM. They'll need upgrades.

Step 2: Check your applications If the programs you use day in and day out haven't yet been released in Mac OS X-native versions – most popular applications haven't – they won't reflect the best features OS X has to offer. They will run – at least, most of them will – but they'll run only in Classic mode. Applications run more slowly in Classic than in OS 9.1, so there's not much point in switching to OS X until most of the applications you normally use are available in OS X-native versions. When will that be?

Step 3: Check your drivers A driver is software that controls hardware: printers, disk drives, scanners, and the like. Apple provides some drivers with Mac OS X. Check hardware companies' Web sites regularly for updated drivers.

Step 4: Take a deep breath All these issues will be resolved in time. When they are, Mac OS X will still be there waiting for you. If you hold out until all the pieces are in place, your transition will go much more smoothly.

spend a lot of time in Microsoft Word, Excel, Power Point, or Entourage, there's little to be gained by jumping to OS X. In fact, you might see performance decline. MYOB is working on an OS X version of AccountEdge, which should be available by the time you read this. And FileMaker plans to have a native OS X version of FileMaker Pro out this spring.

Mac OS X comes bundled with a new Address Book application, which is integrated with the bundled Mail application and can be tapped by other OS X programs. If you're accustomed to Now Up-to-Date & Contact, however, you're in for a bit of a disappointment. Power On just released new versions that are not OS X-native.

You may also be disappointed to learn that FaxSTF – the fax software that comes with modem-endowed Macs – doesn't work with OS X – not even in Classic. STF Technologies hopes to have an OS X version out by June, but the first release won't support faxing from Classic.

Does one of your customers require you to use a Windows application? If you solve that problem by running Virtual PC, mark your calendar for July. That's when Connectix plans to release an OS X-native version. Until then, Virtual PC won't work under Classic.

If you rely on speech-recognition software, be warned: neither IBM ViaVoice nor MacSpeech iListen work with OS X. IBM hopes to have ViaVoice ready for OS X "soon", but MacSpeech hasn't announced any plans to deliver an OS X-native version of iListen.

The verdict If you run your business on your Mac, the picture isn't much better for you than for the graphics professional. You can summarize your situation in two words: Microsoft Office. Wait till the autumn before even considering a move to OS X.

3 The home user The least-demanding Mac users, home consumers may be the first for whom it makes sense to upgrade. Apple has given us an OS X-native AppleWorks – it's a beta, version – and OS X versions of iTunes and iMovie. Casady & Greene announced plans for a beta version of SoundJam for Mac OS X. Add these to the preview version of Microsoft Internet Explorer that comes with OS X and Apple's built-in Mail and Image Capture applications, and you've got a tidy bundle of OS X-native programs.

On the downside, the lack of a compatible DVD-movie player may deter some users. And if you've got used to burning CDs, OS X will be a step backward: that capability is also on the to-be-delivered list. Apple is working to resolve these shortcomings, and a fix should be along soon.

You can always boot into Mac OS 9 when you need to play movies or make CDs, but is switching back and forth between operating systems the ease-of-use Macintosh experience you're looking for? Probably not.

Games are another software category that may affect your decision. Games that run in Mac OS 9 should work fine in Classic, although third-party graphics-acceleration cards will need new drivers. Some companies are already shipping OS X versions of popular games: you can download an OS X-ready update to Cro-Mag Rally, from Pangea Software, for free, complete with a short list of known bugs. Gathering of Developers' Oni is out in a version that runs on either OS 9 or OS X. And Id Software is working on a Quake III Arena for OS X that should soon be available soon from the game's distributor, Activision. (The version released earlier by Omni Group works only with the OS X beta).

The verdict It may have been hard to imagine that home consumers would be first to switch to Apple's new Unix-based system. But the temptation should be resisted. You bought a Mac so you wouldn't have to worry about system configurations. You'll only give yourself headaches trying to live in the netherworld between OS 9 and OS X. Make a list of the software you use, and wait till it's all available in OS X-native versions.

4 The Mac geek You know who you are. You've spent years becoming intimate with Mac OS's every nook and cranny. You supply technical support and advice to a vast network of people.

Applications may not be so important to you because knowing the operating system itself is your trade. Plus, booting between OS X and OS 9 wouldn't be difficult for you. You might also find it fascinating to experiment with the Unix applications OS X can run, such as Apache.

The verdict You are the best candidate for an immediate switch to OS X. It's experimental, and you are someone who wants – and perhaps needs – to experiment. £99 is a reasonable investment in your career – and in a whole new frontier to explore. Just make sure to load OS X on one of your more powerful Macs so that the experience will be exciting instead of frustrating.

The last word

A year from now, when people talk about Mac OS, they'll mean Mac OS X. It's plainly a superior operating system. Apple has laid a strong foundation for the Mac's future. But the transition will be slow. Apple has all but admitted that OS X isn't ready for prime time. If it were, the company would be installing it on Macs today instead of waiting.

The best time to upgrade to Mac OS X will be different for each Macintosh user. There's no risk in trying it (except your £99). To return to OS 9, just reboot. But until your hardware is fully supported and the applications you use most are available in OS X-native versions, you're probably better off biding your time.


MW

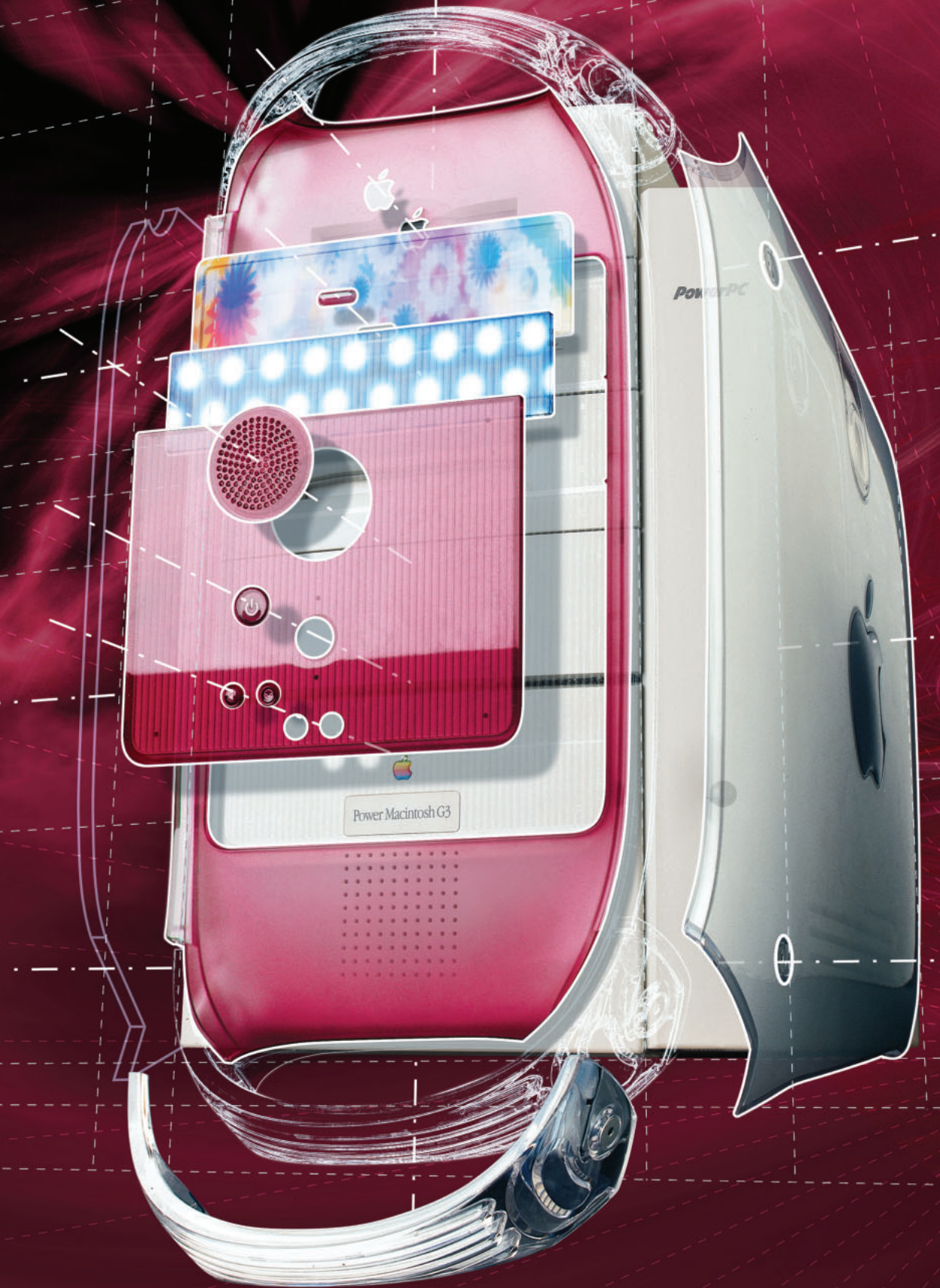
Teach your old Mac new tricks

Don't give up the ghost on your old machine

By Franklin Tessler

Remember that old Power Mac 7500 you banished to the attic when you bought your speedy new G4 last year? Granted, it's not the lightning-fast Windows killer it used to be, but that doesn't mean it's ready for the junk pile. If you find the right job for it, you can still get plenty of use out of your old Mac friend, often with only a small investment in hardware, software – or both. During the Mac's 17-year history, Apple and its erstwhile partners – Power Computing, Motorola, and Umax – have sold hundreds of models and variations; finding resources for ageing computers can be like locating parts for a 60s Cortina. Here, we'll be showing you how to convert older Macs into useful members of your business or household as MP3 jukeboxes, Web servers, and more. We'll also discuss what you need to do before you try to make your Mac old-timer perform new tricks, and we'll tell you where to find the software and hardware you're likely to need.

page 88 



Step 1 Make repairs

Your retired Mac may need to be revived before it can be put to work, and there are several places you can call for help. You can get replacements for missing or damaged accessories from specialty vendors such as Mac Parts (01344 360 220), Used Macs (01279 771 038), Apollo Computers (020 7924 0753) Practical Solutions (01204 795 790), and Blenheim Technical Associates (01603 412 299).

If your Mac exhibits any unusual behaviour, such as distorted video or frequent crashes, a bit of troubleshooting is in order. Ted Landau's book *Sad Macs, Bombs, and Other Disasters* (Peachpit Press, 2000) is an excellent resource when you need to find out what's ailing your Mac. A computer that doesn't boot at all may be suffering from something as simple as a dead battery or as serious as a burned-out component on the logic board. Replacing the battery in most Mac models is relatively straightforward –

the Macintosh Battery Web Page (www.academ.com/info/macintosh) – gives specifications as well as installation instructions for many older models and clones.

If you can't repair the problem yourself, you should probably seek the advice of a certified Apple technician. For a fee, most service centres will provide an estimate of what repairing your Mac will cost. You can find an authorized facility in your areas at www.macworld.co.uk/reseller/

Step 2 Decide how to use it

As you might expect, the most economical way to put an old Mac to work is to use it "as is" (see "Easy ways to renew an old Mac"). If you can't think of a use for your unmodified Mac, you may be able to extend its capabilities by adding software or hardware. But before you add anything to your Mac, make sure that you know its specifications – especially the processor's speed and model, and the types of ports and slots. This will determine what upgrades and peripherals the computer can support and the new jobs it can do.

To find out what's inside your Mac, consult the Apple Spec database (www.info.apple.com/applespec/applespec.taf), an online catalogue that lists hardware details and release dates for every Macintosh system ever shipped by Apple. The Low End Mac Web site (www.lowendmac.com) provides similar information for many Mac clones. Be sure to check the first item in the Finder's Apple menu – About This Computer or About This Macintosh, depending on your system-software version – to see how much memory is installed in your Mac.

Software upgrades for old Macs are usually painless and relatively inexpensive. Alas, deciding whether to upgrade your hardware isn't usually as straightforward. Although there's no foolproof formula that can tell you whether investing in add-on hardware is worth the cost, some basic maths will help you decide if it makes sense to put money into an old computer.

If you're still at a loss about what to do with a retired but functional Mac, consider donating it to a school or a charitable organization. Often, you can deduct the computer's fair-market value on your tax return. One such charity is the London-based Cybercycle (020 7737 0494). There is also the national organisation, Computers for Charity (01288 361 199).

Step 3 Find the right software

Often, you'll have to add or update your old Mac's software to prepare the computer for a new role. If you're missing any applications, you'll need to find compatible replacements – and you'll want to at least consider updating your computer's system software.

Find compatible applications Locating software that runs on older Macs is easier and less expensive than you might expect. Some vendors offer limited versions of current applications that are compatible with old models. For example, Nisus Software's free Nisus Compact (www.nisus.com) runs under System 6 or later and uses only 512K of memory. Don't forget, you can also find older software versions through online search engines, by browsing on auction sites such as eBay (www.ebay.com), or by scavenging at your local Apple store or computer swap meet.

Upgrade your system software New Mac OS releases usually incorporate bug fixes and extra features, so you should consider upgrading to a later system-software version than the one that originally shipped with your computer. Even the Macintosh 128K supports System 6, so you'll usually be able to choose from System 6 through 9.

Consult the Apple Spec database to see which Mac OS versions your Mac supports. The database doesn't always

list the most-recent compatible version, so also check Apple's technical-support site (www.apple.com/uk/support) to get the hardware requirements for any system software release you're considering.

Next, find out which system-software versions work with the programs you'll be running on your Mac. (You can usually find this information in the application's manual or in a Read Me file on the installer disk.) As a general rule, it's better to choose a recent Mac OS version, but keep in mind that newer software releases usually make more demands on RAM, hard drives, and processors. The fabulous features of a newer OS may not benefit you if your Mac slows to a crawl. If you don't need the features in the most recent system-software version compatible with your Mac, upgrade to an earlier version instead.

If your old Mac is not actually all that old, you may want to buy Mac OS 9 on CD-ROM; it costs £67 and is available from Apple, third-party resellers, or your local computer store. Interim updates are generally available for free on Apple's support Web site ([ftp://ftp.apple.com/Apple_Support_Area/Apple_Software_Updates](http://ftp.apple.com/Apple_Support_Area/Apple_Software_Updates)), where you'll also find free System 6 and 7 downloads. Apple no longer sells or provides Mac OS 8.

Update your applications Macs of relatively recent vintage – released within the past five years or so – may be compatible with the latest versions of application software. As with system-software upgrades, however, extra features can take their toll on performance – so jumping to the latest version usually doesn't make sense for older Macs. A prime example of this is Microsoft Word 5.1. It doesn't sport all the whiz-bang features of Word 2001, but it may be the best choice for your system if all you need is a functional word processor. However, be aware that older versions of software may not be able to read files created by newer versions. For instance, if you have Microsoft PowerPoint 4 installed, you won't be able to read PowerPoint 98 files. And keep in mind that PowerPC-only applications won't run on machines with 680x0 processors.

If you have a modem, even an older Mac will get you online. For example, the iCab Web browser needs only 4MB of free memory and runs on any 68020-based Mac with System 7.0.1 or later. You can download the latest public beta from iCab's Web site (www.iCab.de). Fetch 3.0.1, a popular FTP client (\$25); ZTerm 1.0.1, a simple terminal emulator (\$30); and Eudora 4.3, a free e-mail client, work on 680x0-based models from the Mac Plus on up. Find the first two at the Macdownload Web site (www.zdnet.com/downloads/mac/download.html) and the third at Eudora's Web site (www.eudora.com/products/old.html).

You can stay on top of software updates by consulting VersionTracker (www.versiontracker.com), a Web site that keeps tabs on Mac software releases from thousands of companies. If you can't decide whether to get an updated version of a program, pay a visit to the company's Web site to get a detailed description of new features, bug fixes, lists of minimum system requirements, and free demos.

Step 4 Invest in new hardware

Modest hardware upgrades often pay off by allowing you to use software that you couldn't even consider before. For example, for less than £39 you can boost your iMac's memory from 64MB to 128MB, which lets you use memory-hungry applications such as PowerPoint.

The first Macs weren't designed for upgrades – transforming a Mac 128K into a 512K "Fat Mac" required a trip to an Apple dealer and almost £600. Happily, newer Macs are far more upgrade-friendly, and installing most

Easy ways to renew an old Mac

Finding a role for an old Mac without adding hardware isn't as challenging as you might imagine. Here are some ideas to help get you started. And we'd like to hear your suggestions; please visit Macworld.co.uk and post your ideas in the forum.

New master

Although your old Mac may no longer have enough horsepower for you, it's probably more than adequate for someone in your home, office, or organization who doesn't already have a computer. For example, a Mac IIci running ClarisWorks 3.0 is a good option for temporary workers who need to do simple word processing. (You can buy old versions of ClarisWorks from many of the online resellers mentioned in Step 1.) If your school-age kids are constantly clamouring for time on your Mac, get them out of your hair by giving them an older computer for doing homework assignments or playing games.

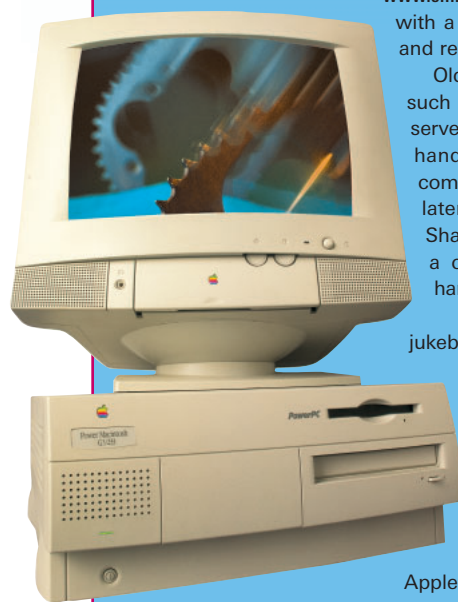
Specialized tasks

Old Macs can also do a variety of unattended jobs. For example, Vicomsoft's SurfDoubler (£32, Vicomsoft, 01202 293 233), which runs on any PowerPC Mac with System 7.6.1 or later, lets you share an Internet connection between two computers. (For details on using SurfDoubler, see Create Networking, October *Macworld* 2000.) You can turn any PowerPC model into an effective office message centre with Smith Micro's HotFax MessageCenter Pro (\$70, www.smithmicro.com). Even if you have a 68030 Mac with a slow modem, you can use it for sending and receiving faxes.

Old Macs – including some 680x0 models such as the Centris – make excellent Web servers, as long as you don't expect them to handle thousands of hits. And, if your computer is compatible with Mac OS 7.5.3 or later, you can use Apple's Personal Web Sharing to serve Web pages on the Internet or a corporate intranet from a folder on your hard drive.

You can also turn an old Mac into an MP3 jukebox by downloading Casady & Greene's free SoundJam MP (www.casadyg.com), which runs on any Mac using OS 8.1 or later with a chip no older than PowerPC 603. A 1GB hard drive has room for hundreds of songs, and SoundJam lets you create customized playlists.

If your computer has built-in USB ports and you're running OS 9.0.4 or 9.1, Apple's iTunes is another free option.



PowerBook 170
October 1991

The PowerBook debuts. Like the original Macintosh, the first PowerBooks offer few expansion options.



Power Macintosh 6100, 7100, 8100
April 1994

The PowerPC processor is introduced. Even these early models can be upgraded with third-party G3 and G4 boards.



Power Macintosh 7500
August 1995

NuBus is replaced by PCI bus, opening the Mac to industry-standard expansion boards. A replaceable CPU daughterboard simplifies installing faster processors.



Macintosh PowerBook 3400
February 1997

The first PowerBook with an expansion bay, this model accepts extra batteries and storage devices.



Power Macintosh G3
November 1997

The G3 processor is introduced. This Mac also has an IDE bus, which makes hard-drive upgrades less expensive.



iMac
September 1998

Apple gets rid of ADB ports in favour of USB ports, which accept popular printers, input devices, and other add-ons.



Power Macintosh G3
(Blue & White)
January 1999

FireWire ports let the Mac work with compatible digital-video recorders and storage devices.

'If you're planning on running Mac OS X, be aware that Apple hasn't promised to support Macs upgraded with third-party G3 or G4 processor cards – although some vendors have claimed that their upgrades will be compatible with the new OS'

hardware enhancements is within the capabilities of most users. For details, see page 89, which illustrates important changes to Mac hardware, with an emphasis on features that made upgrades easier to perform.

Add memory Adding RAM is usually the most cost-effective way to make an old Mac more capable. And fortunately, RAM prices have been falling. You can check out the asking price of memory chips for PowerPC Macs at Crucial Technology (www.crucial.com/uk).

Get a new hard drive Adding a higher-capacity hard drive is another good way to enhance the capabilities of an older Mac. Every Macintosh model from the Mac Plus through the iMac sported a SCSI port that accepted external drives. If you shop around, you can find external 2GB SCSI drives for as little as £60. Many Macs are also compatible with less-expensive internal IDE and SCSI drives, which don't require a separate power supply.

Upgrade the processor CPU upgrades are a viable option for many models, even those without replaceable processor cards. Though you'll pay £500 or more for the fastest G4 boards, XLR8 (01442 255 899), PowerLogix (www.powerlogix.com – UK distributor: AM Micro, 01392 426 473), and Sonnet Technologies (www.sonnettech.com – UK distributor: Computers Unlimited, 020 8358 5857) sell less-expensive upgrades for desktop Macs, clones, and PowerBooks. For about £250, for example, you can swap the 100MHz PowerPC processor in your Power Mac 7500 for a speedy 400MHz G3 and run the latest version of Adobe Photoshop. Before you buy, check the Accelerate Your Mac Web site (www.xlr8yourmac.com), which includes a searchable database of user reviews of CPU upgrades, along with hundreds of useful tips and answers to common questions.

If you're planning on running Mac OS X, be aware that Apple hasn't promised to support Macs upgraded with third-party G3 or G4 processor cards, although some vendors have claimed that their upgrades will be compatible with the new OS.

Add features Add-on boards offer the greatest potential for enhancing the capabilities of old Macs. Depending on the model, options range from adding ethernet networking to providing USB ports for using input devices that are incompatible with ADB Macs. To determine what type of cards your computer accepts, find your model in the Apple Spec database and look under the Logic Board section. Most add-on boards come with instructions and are a snap to install. Because they work on both PCs and Macs, PCI cards are usually plentiful and relatively inexpensive.

Boards for older, NuBus-based Macs such as the Quadra series are harder to come by, but you may be able to get

Case study: making a backup server

No computer runs perfectly forever, and we know we should make copies of our precious data. But our Macs work hard – even when we have multiple computers, it seems as though there's never enough time to take one off-line for backup purposes.

The solution could be as near as the retired Mac mouldering in your basement. For example, many of us bought Power Mac 7500s. After six years, yours is probably showing its age, but with the proper software and external storage device, it can be rededicated as a backup server – co-ordinating when and how a network full of data is backed up. The cash outlay required for this can be surprisingly small.

You can start with Dantz's Retrospect Desktop (£149) and its £109 Retrospect Clients 5-Pack (both Computers Unlimited, 020 8358 5857). Retrospect backs up Macs across an AppleTalk network and backs up Macs and PCs over a TCP/IP network. Retrospect offers flexible scheduling options and supports just about any storage medium on the planet (including Web-based storage).

Of course, your 7500 and Retrospect can't do the job alone. You also need a backup medium. There are several options, including pricey high-capacity storage devices such as tape drives and DVD-RAM, and mid-range CD-RW drives and removable-cartridge media.

If you want reliability at a relatively low price, go with a CD-RW drive. Just be aware that if you back up files that run into multiple gigabytes, you'll have to be around to swap disks – a pain if you hope to back up your network during the few hours that your Macs are not in use.

Depending on your financial situation and backup needs, you may want to consider other extras: A fast SCSI or FireWire card in your Mac will move data more quickly to the storage device. And if you really need speed, adding a 10BaseT Ethernet card to your backup server, along with a processor upgrade, will cut your backup times in half.

For complete instructions on turning your old Mac into a trusty backup server that fits your needs, visit www.macworld.co.uk/oldmac

Christopher Breen

LOW-COST BACKUP SERVER BREAKDOWN

Your old Mac	free
CD-RW drive	about £160
CD-RW media (100 discs)	about £50
Dantz Retrospect Desktop	£149
Dantz Retrospect Clients 5-Pack	£109
Total	£468

them from firms that specialize in Mac replacement parts.

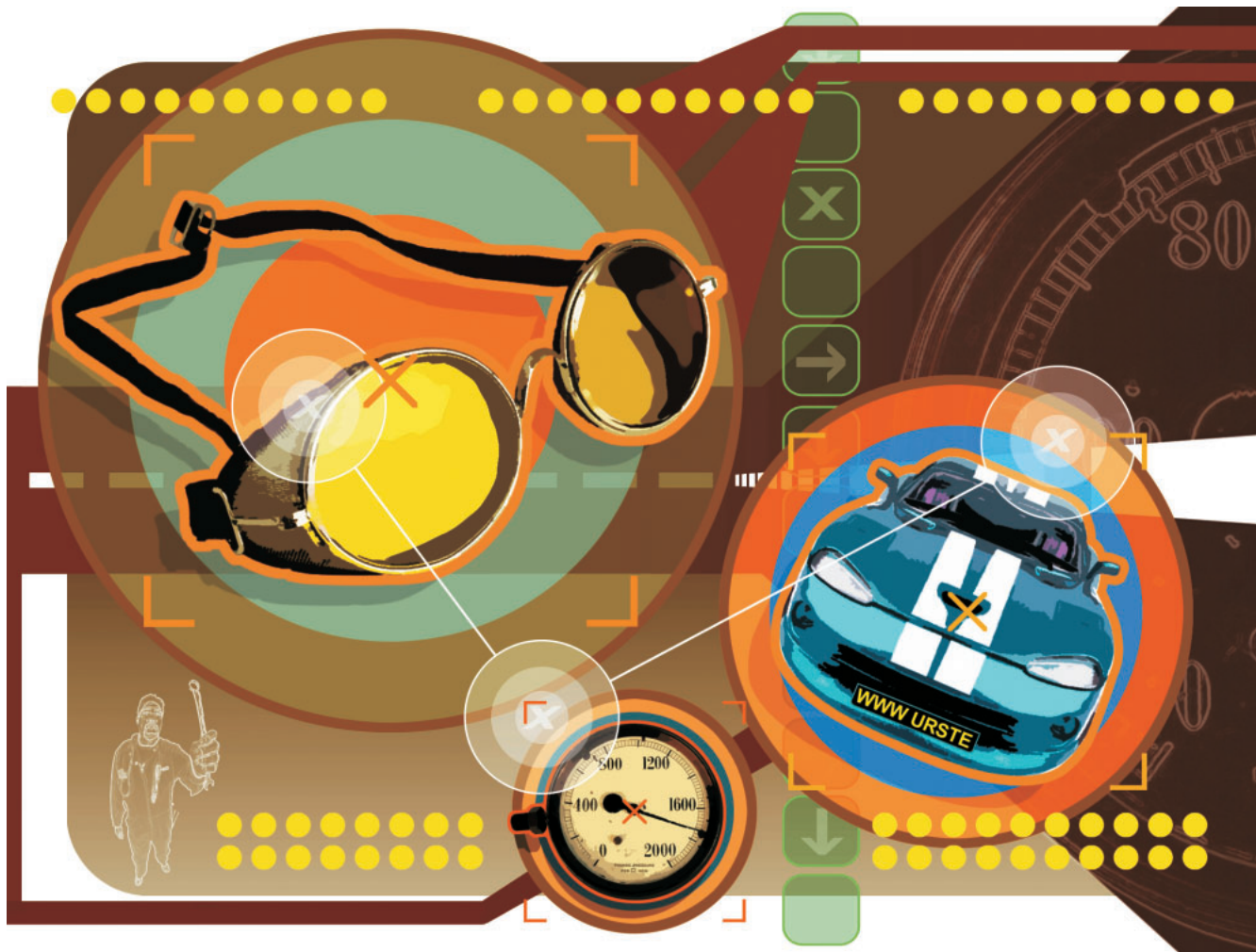
Add peripherals You can often get printers, modems, and other peripherals for older Macs from vendors that specialize in Mac replacement parts. If you don't need a colour printer, you can find refurbished Apple LaserWriters, a good choice for pre-USB Macs, for as little as £80. Pre-USB Macs with PCI slots can be expanded with Keyspan's £30 USB Card (AM Micro, 01392 426 473), which adds twin-USB ports to let you use the latest inexpensive ink-jet printers. (Before you buy, check the printer vendor's Web site to see which versions of the Mac system software the printer driver requires.)

Change your PowerBook PowerBook users enjoy fewer upgrade options than owners of desktop Macs, but you can still buy higher-capacity hard drives for many older models. You can also find CPU upgrades for relatively recent PowerBooks such as the 1400 and early G3 models.

The Last Word

An older Mac has plenty to offer, whether you want to use it for surf-ing the Web, writing newsletters, or crunching spreadsheets. If you know where to look for resources, you can coax years of extra life from your old Mac.

MW



Give your Web site a test drive

Use a prototype to make sure your site is roadworthy before going live.

By Lisa Schmeiser

Before sending their latest, sleekest models into mass production and signing up aging musicians for ad campaigns, car makers spend extraordinary amounts of time and money repeatedly pulverizing their new creations. They hurl the cars into steel walls, race them over bone-jarring terrain, and leave them baking for hours at supernova temperatures. The companies know that it's safer (and cheaper) to discover

potentially fatal flaws and malfunctions before they offer their products to the public.

This is a lesson that Web developers would do well to learn. Although a poorly conceived Web site will probably not spontaneously catch fire, it may nonetheless cause serious heartburn for the luckless designers who must rebuild the flawed site from scratch.



Making changes to a Web site once it's finished can be a costly and painful experience. But you can avoid this scenario by first creating, and testing, a prototype of your site – a scaled-down working model of the finished product. A prototype lets you get a first look at what users will see as they click through your site, and it can expose unforeseen flaws in its structure and navigation. This gives you a chance to fix glitches before they send your site – and reputation – up in flames.

Best of all, building a Web-site prototype can be quick and easy.

A Web-site prototype is a bare-bones, clickable model of your site. Although it's just a collection of simple, hyperlinked documents, you can use it to set up and test your site's content organization and ease of navigation.

Building a working model of your Web site – even though you could spend that time building the actual site – is worth the effort. Your Web site's launch is not the time to find out that users get hopelessly lost in a maze of dead-end hyperlinks and confusing paths. By laying down a site's groundwork early, you save yourself forehead-slapping moments and angry emails later on.

The best time to start the prototyping process is the moment after you decide you're going to build a Web site. Although there are several effective software tools that can help you prototype your site (see "A helping hand"), you can actually complete the entire process with nothing more complicated than a pen, a pad of paper, and a basic HTML editor.

Organize your content

Before you start building your test site, spend some time and mental energy deciding how the final site will be structured. Knowing that you want a site devoted to the grooming habits of monkeys, and actually presenting the information in the best way, are two very different things. But no matter how hefty – or strange – a Web site is, you can simplify the organization process with the following three-pronged strategy:

Draft a site tree Your first challenge is to draft a broad organizational scheme for your site's contents. You need to

find logical ways to group your information, so readers can quickly find what they need. For this, you'll want to create a site tree – a diagram of how your site's pages are linked together. A site tree, also referred to as a site map, starts with a single Web page (typically the home page) and branches out to show every page to which it links. The process is then repeated for each of the subsequent pages, until a full view of the Web site's hierarchy is outlined (see "Bird's eye view").

When you create a site tree, the hardest part is figuring out what organizing principles you should use to sift content into specific areas.

To get started, ask yourself a simple question: "What do I want people to do on my site?". Use the answers – read news, search the site, and send feedback, for example – as the primary categories of your site tree, and group your pages accordingly.

As you create your site tree, keep an eye out for signs of potential trouble. For example, a site tree that is extremely shallow and wide may indicate that your structure is too unfocused, and that some information should be nested into broader categories to add depth to your site.

Identify your information Once you've outlined your Web site's basic structure, you should start brainstorming to come up with all the specific pieces of information you'll need. This step is detail oriented, and can be overwhelming if you don't take a logical approach. It may help to first divide your content into three categories:

Navigation information This covers how to use the site, including specific names for navigation links and details on using site tools – such as a search engine.

Site information This is the data that gives users information about the Web site as a body of work. It may include contact information, design credits, or a table of contents.

Unique content This encompasses the words, scripts, and images that will compose the primary information on the site.

Next, start listing the specific information that will fill each category. You may find it helpful to use different-coloured Post-its to correspond to different types of information. For example, write navigation options on green notes, unique page content on yellow ones, and contact information on blue ones. This visual system comes in handy later, when you need to see how much, and what type of, information is going to be on each page of your site.

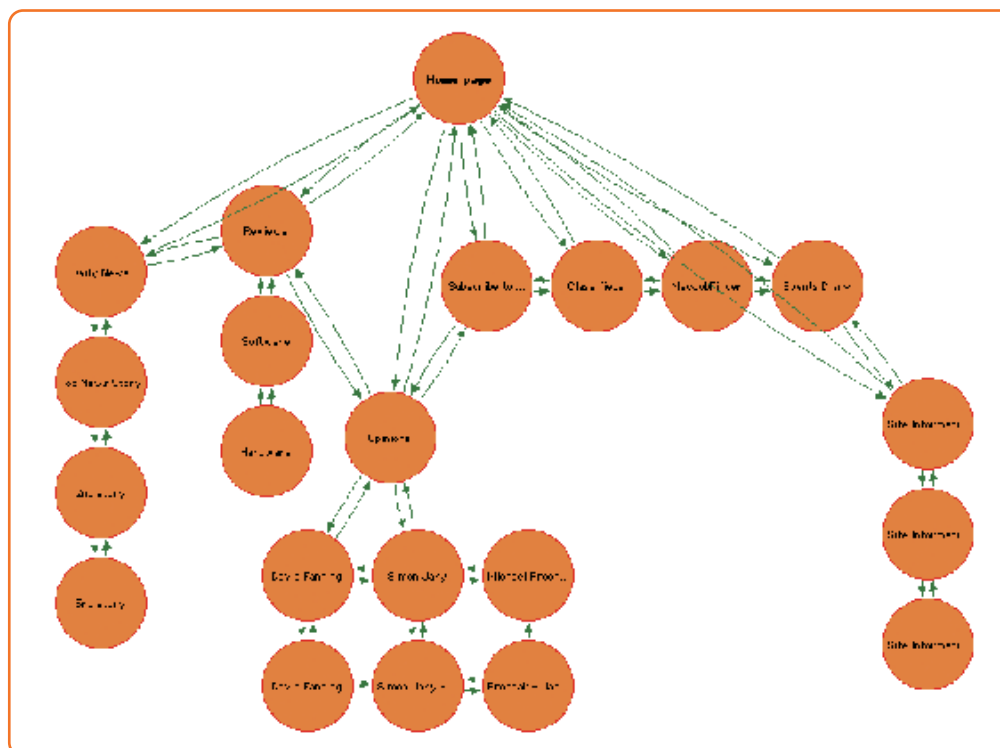
Storyboard your site Your next step is to connect each piece of information with the site tree you created, to make sure the two mesh. To do this, you'll create a storyboard, a page-by-page map of your Web site's content.

One of the fastest and easiest ways to storyboard a Web site is to find a flat surface, a few blank sheets of paper, and the colour-coded sticky notes you created when identifying your content. Each sheet represents a different page within the site tree. Simply go through your sticky notes and attach each one to the right page.

As you work, you'll want to delete or add pages as you notice that they contain too little, or too

Bird's eye view

A simple site tree can help you visualize your Web site's structure, and the number of clicks it will take to drill down to specific information.



Anatomy of a Prototype

An effective functional prototype should show explicitly how all of the information in your site is linked together. This no-frills page illustrates the types of information you'll want on

a typical prototype page. Although this page looks nothing like the finished version, users can quickly see what content will live on the page and how the page relates to the rest of the site.



The finished page

Primary navigation (A) If your Web site has several distinct sections, you'll want a way to guide readers to each section. This group of pages is your reader's primary means of navigation through the site; be sure to include it in your prototype, so you can see what it will be like for users to move up and down the different sections of your site.

Secondary navigation (B) Each specific page in your prototype has a unique place on the site; that does not preclude it from being part of a collection of pages in a specific level of your site tree. This second group of navigation links lets users move laterally between pages in a group on the site tree.

Page title (C) This descriptive name tells you and your testers exactly what this page is supposed to do.

User's path (D) This "breadcrumb navigation" may or may not make it into the final design, but it's invaluable for the prototype. The drill-down list of links lets you see how users can get to the page, and confirms an individual's page place within the site prototype.

Page description (E) When you're building the prototype, writing a short blurb that describes the type of content on each page is useful. As you flesh out the prototype, replace the descriptive blurb with the actual content that will occupy the page; this will help you model the way that a user will find and read information.

Page links (F) If you're planning on including links related to specific page content, call them out in a separate list. This list will help you later, when you're trying to match the correct hyperlink to individual pages.



much, information to be genuinely useful. This is also a good way to see early on whether you're missing any important information that you'll need to create.

Make a functional prototype

After you've mapped out your site-wide structure and content, it's time to turn the map into a clickable model. For this, you'll need to make a functional prototype.

Functional prototypes – also known as wire frames – simulate the feel-&-function of the finished Web site by constructing its basic framework of hyperlinked pages (see "Anatomy of a prototype").

You can use this prototype to test the effectiveness of the site structure, by following the steps people will take to find information or buy a product. And because the prototype is no more complicated than HTML and text, it's

easy to fix problems when you find them – there are no tricky bits to get to grips with.

It's important to remember that a functional prototype does not have to be beautiful – it merely needs to be useful. Use font faces, coloured table cells, or other visual cues to identify specific types of information. Don't fret if they clash.

Thanks to your detailed storyboard, building your functional prototype in any HTML editor should be a piece of cake. Here are some fundamental rules to keep in mind while constructing your prototype:

Simplify file names When saving your files, keep your file-name scheme simple and functional. This will help you remember the names of the files as you link and cross-link your pages, and it will prevent confusion. For example, if you have a news section on your site with several pages, you will probably find the file names `news_index.html`, `news_archive.html`, and `news_search.html` more helpful than `news-1a.html` and `news-1b.html`.

Also, be sure to organize your folders and documents exactly as you plan to for the final site, including the same file names and hierarchy. This will help you sort out any problems you may have in your filing system, and help you grow accustomed to manoeuvring through your site.

Stick to the basics Keep your prototype extremely simple. This makes it easier to test and modify.

All you want on your prototype's pages are text and hyperlinks: the text describes or comprises your site's content, and the hyperlinks offer access to the navigational byways of your site.

Co-ordinate colours Use colour to identify different types of information. For example, shade table cells orange for information that tells you how to use the site, and use green for unique content. This kind of colour code provides a rapid way to check the types of information that a page holds.

Prioritize page content Position the information on your pages according to function and priority.

I always place my site navigation at the very top of a page because that makes clicking through my site tree easier. If you're primarily concerned about your site's editorial flow, consistently make text the main thing on a page.

Once you've built all the pages within your site tree, and

hyperlinked them to one another, you should have a complete skeletal model of your Web site.

Test your prototype

Now that you've built it, you're ready to take your prototype out for the all-important test drive. Enlist a few friends and co-workers (who didn't work on the prototype with you) – and ask them to click through your model. For the most-honest results, make sure you select a group with varying degrees of Web proficiency and familiarity with the subject matter. Get their reactions, and find out what made sense and what didn't. A quick and effective way to test the organizational structure of your prototype is to ask your volunteers to perform a series of information-finding tasks on your site. Give your volunteers a goal – finding the site's contact information, for example – and ask them to log all the pages they visited while trying to perform your task. You'll see how your idea of information organization meshes with a user's idea of how a Web site is supposed to behave.

After you've tested your prototype, you can use the new-and-improved model as the foundation of your finished site. Since the whole point of a prototype is to give you a working model of the Web site you want to build, it would be a shame to throw away the model once you've finished with it. Instead, simply drop your design and the rest of your content into your existing site skeleton. If you work off page templates, turn one of your prototype pages into a template, and work from there.

A prototype is a quick and easy way to test the ideas and assumptions that came together to form your Web site. Once you've settled on your method for gathering and organizing information, and after you've turned your site plans into a clickable model, you'll be able to see what will work for your Web site and what won't – all without sinking a lot of time and effort into building the final product.

Best of all, prototype results stay private. Users will never know about the problems you corrected during the test-driving process. By the time they get to kick your Web site's tires, they'll see only a polished, well-constructed machine that handles like a dream and practically drives itself.

MW

A helping hand

While the entire prototyping process can be completed with nothing more high-tech than paper, pens, and a basic HTML editor, there are plenty of software options for people who do their best thinking in front of a computer screen. If you prefer your mouse to a pen, here are three handy prototyping tools that will help you conceptualize and build your site.

Site-tree software

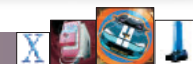
If you need a little help organizing your site's content, Inspiration 6, by Inspiration Software (£85; PMI, 02476 419 089), can help you turn chaos into an orderly and logical site map. Originally developed to teach students how to visually organize ideas, Inspiration offers easy-to-use flowcharting tools for building complex site trees. You can switch between an outline view and a diagram view, add hyperlinks, and even create your own symbols to customize the way you work.

Along with its many site-management tools, Adobe GoLive 5 (www.adobe.co.uk) offers some strong prototyping features. GoLive lets you generate a diagram of your site's files

and folders (using drag-&-drop arrows to link one page to another) before you ever create a single Web page. Even better, when you're satisfied with your site's structure, GoLive will automatically build templated HTML-pages based on your site tree. Another useful feature lets you create placeholder files for sections you haven't yet mapped; this comes in handy if you need to expand your site but haven't begun working on the specifics.

Fast functional prototypes

If you use Macromedia's Dreamweaver 3 or higher (www.macromedia.com/uk) and are ready to build a functional prototype, you'll want to download the Wireframing extension from Macromedia's Exchange (www.macromedia.com/exchange/dreamweaver/). This free extension to Dreamweaver lets you use CSS Layers to quickly mock up basic page layouts – assigning areas for different types of content – and build a working skeleton of your finished Web site. You simply drag objects, such as a basic navigation bar or page title, from the new Wireframing Objects palette and place them on your page.



Awards 2001

Sponsored by hp



2001 is another year of transformation for Apple and all Macintosh users. After the return of co-founder Steve Jobs as CEO in 1997, the launch of the iMacs in 1998, the G4 in 1999 and iMovie in 2000, we face the biggest leap of faith of all this year, with the release of Apple's next-generation operating system – Mac OS X. While we await the promised “avalanche” of

OS X-optimized products this summer, *Macworld* editors and readers have been considering the year's best products. The prizes were awarded at a glittering black-tie gala opposite London's Millennium Dome on May 3. For those who couldn't attend, here are the winners and runners' up for the Macworld Awards 2001.

▶ page 132

	editors' choice		runners-up			editors' choice		runners-up		
productivity hardware	Product Company  G4 PowerBook Apple Lighter, faster and more fully featured than even Sony's Vaio sub-notebook, Apple's positively skinny PowerBook G4 is an instant one-inch-thick design classic and productivity booster. Its titanium shell is both strong and light, as well as great-looking. The 15.2-inch ultra-wide screen and G4 processor make this a real pro laptop.		Product Company Cinema Display Apple Graphire Mouse & pen Wacom Phaser 1235 N Xerox Visor Edge Handspring Wheel Mouse Optical Microsoft		multimedia hardware	Product Company  RT Mac Matrox Matrox's RTMac card provides professional real-time editing features for just £699. Matrox's Flex 3D architecture exploits the graphics performance of the company's accelerator technology, to provide broadcast-quality effects and 32-bit, uncompressed, animated graphics in a dual-stream, native-DV editing environment.		Product Company CinéWave Pinnacle GeForce2 Nvidia Power Mac G4 Apple Radeon ATI SoundSticks Harman Kardon		multimedia hardware
productivity software	Product Company  Office 2001 Microsoft Seen by many as Apple's arch-enemy, Microsoft is actually one of the Mac's greatest fans. Microsoft's Office suite of business applications (Word, Excel, and PowerPoint) include many features that are to be seen on the Mac before on the Windows versions. The super-charged Entourage email client and personal-information manager is a real bonus.		Product Company CopyAgent Connectix Details 3.0.1 AEC Software Norton SystemWorks 1.0 Symantec PreFlight Online Extensis Virtual PC 4 Connectix		multimedia software	Product Company  Premiere 6.0 Adobe Premiere 6.0 is an extensive upgrade that offers fundamental productivity and workflow benefits to professional video editors. It should soon also benefit from real-time video-editing cards, such as Matrox's RTMac — making it a compelling alternative to Apple's Final Cut Pro.		Product Company After Effects 5.0 Adobe Cinema 4D XL 6.0 Maxon Computer Director 8.0 Macromedia DVD Studio Apple Final Cut Pro 2 Apple		multimedia software
creative hardware	Product Company  Power Mac G4 MP Apple There might only be one left in Apple's pro-desktop lineup for now, but the return of multiprocessing speaks volumes for the company's workstation ambitions. Optimized programs, such as Adobe Photoshop, benefit greatly today — and everything will receive a giant speed-boost as soon as more applications are Carbonized for Mac OS X.		Product Company Electron 22 Blue II LaCie EOS D30 Canon GeForce2 Nvidia Linscan F2400XL Heidelberg Stylus Photo 1290 Epson		education hardware	Product Company  SuperDrive and iDVD Apple Apple is hot on education again, as witnessed by its recent PowerSchool purchase and iSchool.com domain. Its Pioneer-designed SuperDrive is a CD-RW/DVD-R combo that, with the excellent freely bundled iDVD software, lets pupils and teachers easily produce multimedia projects that will play on standard consumer-level DVD players.		Product Company DeskJet 930 CM hp DVL107 digital camcorder JVC iBook Apple iMac Apple USB Microscope iRez		education hardware
creative software	Product Company  Photoshop 6.0.1 Adobe Adobe claims that this latest update to the creative industry's premier image-editor is the most significant since version 3. Web graphics are further enhanced, and, finally, Photoshop has a decent set of text tools. The fact that it's optimized for Mac multiprocessing makes it the runaway winner in this award category.		Product Company Acrobat 5 Adobe Colorperflexion Colorperflexion CuBase 5.0 Steinberg FreeHand 10 Macromedia Sibelius 1.4 Sibelius		education software	Product Company  iMovie 2 Apple Making sophisticated film-projects with Apple's iMovie 2 is so easy that even teacher can use it. Combined with our Education Hardware winner (Apple's SuperDrive and iDVD) or with Apple's iTools Web sites, iMovie 2 takes once-complex projects and puts them in the capable hands of kids. Creative learning indeed.		Product Company Explore Parliament The Armchair Travel Co. Mac OS X Server Apple Mathematica 4.1 Wolfram Research Musée d'Orsay, Montparnasse Starry Night Backyard Sienna Software Virtual Visit Multimedia		education software
connectivity	Product Company  Angelo Card Hermstedt Contrary to popular opinion, ISDN is not being taken over by ADSL. ISDN has been given a new lease of life with a card that offers up to 2Mbps throughput. The Hermstedt Angelo card has 30 ISDN channels for use all together or individually — for the fastest guaranteed bandwidth around.		Product Company AirShuttle Hermstedt DoubleTalk Connectix FireWire Hub Swann FTP Client Pro 3.0 Vicomsoft procurve switch hp		web publishing	Product Company  Dreamweaver 4/Fireworks 4 Studio Macromedia Macromedia's Dreamweaver is already the world's leading Web-design layout tool. But to describe it as merely a layout tool is to ignore its multitude of other interactive scripting and site-management features. Version 4 of Dreamweaver is now even easier to use and faster to learn. It's also better at production flow, and entirely customizable.		Product Company BBEdit 6 Barebones Software GoLive 5.0 Adobe Flash 5 Macromedia Freeway 3.1 Softpress LiveMotion 1.0 Adobe		web publishing
storage	Product Company  Toast Titanium 5.0 Roxio Some people said Adaptec's Toast 4 couldn't be improved. They were wrong. Toast 5 sports a new simplified Aqua-like interface and even more features. Now you can burn CDs in the background without stopping your work. Toast 5 also supports DVD, MP3 and Video-CD formats.		Product Company FireLight Mac & More One Pro 45GB One Technologies Snap Server 2000 Quantum Tempo RAID66 Sonnet 16x10x40 CD-RW LaCie		consumer hardware	Product Company  PhotoSmart 1218 hp From automatic paper-sensing to infrared connectivity, hp's PhotoSmart 1218 has everything, including great quality prints. It even does its own head alignment. You can print directly from digital-camera media using either CompactFlash or SmartMedia cards. This printer is so smart you don't even need a computer to print from.		Product Company GeForce2 Nvidia iBook SE Apple iMac Special Edition Apple m105 Palm Radeon Mac Edition ATI		consumer hardware



editors' choice

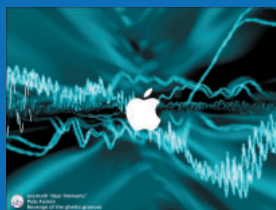
runners-up

consumer software

Product iTunes 1.1
Company Apple



Apple hired the writer of Casady & Greene's SoundJam to update the digital-music jukebox software with a jazzy Apple interface. iTunes, free with new Macs and downloadable for the rest of us, is a wonderful way to make people use their Mac as a digital-entertainment hub. And the pictures sure look pretty, too.



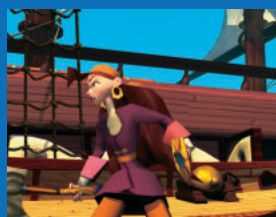
Product iMovie 2
Company Apple
Office 2001
Microsoft
Photoshop Elements
Adobe
PhotoStudio 4
ArcSoft
Virtual PC 4
Connectix

entertainment

Product Escape from Monkey Island
Company Aspyr



Anybody familiar with Guybrush Threepwood's previous adventures, will know that Escape from Monkey Island has been a long time coming. But it doesn't disappoint. With hilarious characters, such as ghost pirates and, of course, the occasional monkey, it's the best adventure yet — and an excellent respite from your average shoot 'em up.



Product Alien Crossfire
Company Firaxis
Championship Manager 00/01
Feral Interactive
Deus Ex
Aspyr
Oni
Bungie
The Sims
Aspyr

product of the year

Product Mac OS X
Company Apple



OK, so it's not quite the finished article yet — missing some key features and still waiting for optimized applications. But OS X is, without doubt, the future of the Macintosh. Its high-performance, robust Unix architecture is well hidden underneath the gorgeous Aqua interface. It may take time to get used to, but OS X computing is well worth the effort.



Product Office 2001
Company Microsoft
OmniWeb
The Omni Group
Photoshop 6.0.1
Adobe
PowerBook G4
Apple
SuperDrive and iDVD
Apple

readers' choice

runners-up

best hardware

Product PowerBook G4
Company Apple



What's sexy and one-inch thick? The Titanium PowerBook G4. Apple CEO Steve Jobs calls it the ultimate blend of sex and power. Macworld readers agree, and the sales figures speak for themselves. This sleek-design dream looks set to be Apple's most popular laptop ever.



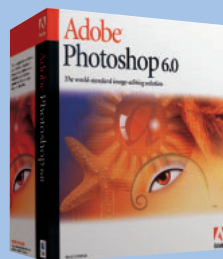
Product iBook
Company Apple
iMac
Apple
PhotoSmart 1218
hp
Power Mac G4 Cube
Apple
Power Mac G4
Apple

best software

Product Photoshop 6.0.1
Company Adobe



Photoshop seems to have been the readers' choice for best software forever... And why not? Version 6.0 is classic Photoshop — the universally acclaimed image-editing market leader. The new text-tools are worth the upgrade price themselves, and the increased Web support makes this perennial favourite even closer to our hearts (and Wacom tablets).



Product Dreamweaver 4
Company Macromedia
Final Cut Pro
Apple
iMovie 2
Apple
Mac OS X
Apple
Office 2001
Microsoft

best dealer

Company Macwarehouse



The ads have finally changed from the pretty lady with the telephone headset, but Macwarehouse still offers an almost unrivalled selection of top Mac goods via phone or Web. Macworld readers clearly appreciate the swift service and choice of products, as Macwarehouse is their favourite for the third year in a row.



Company Computer Warehouse
Jigsaw
Mygate





iMovie 2: Video lighting

Turning home video into pro video. Part Three. By David Pogue

Today's camera optics are good, but they're not human eyeballs. Every camera, from your camcorder to professional TV and film models, captures truer colour, depth, and contrast if lighting conditions are good. The need for bright light grows more desperate if:

You record onto videotape instead of film Video picks up an even smaller range of light and shadow than film, so having enough light is especially important when using your camcorder. A movie whose acting, sound, and dialogue are exceptional can be ruined by poor lighting.

You plan to turn your finished production into a QuickTime movie If the final product of your video project is to be a QuickTime movie (as opposed to something you'll view on TV), you need even more light.

The compression software (codecs) that turn your video into QuickTime files do excellent work – if the original footage was well lit. When you turn a finished dim iMovie production into a QuickTime movie, you'll notice severe drops in colour fidelity and picture quality – and a severe increase in blotchiness.

This desperate need for light explains why some camcorders have a small built-in light on the front; unfortunately, such lights are effective only when shooting subjects only a few feet away. Better still are clip-on video lights designed precisely for use with camcorders. Not every camcorder has a shoe – a flat connector on the top that secures, and provides power to, a video light. But if yours does, consider buying a light to fit it. The scenes you shoot indoors, or at close range outdoors, will benefit from much better picture quality.

If your camcorder doesn't have a light attachment, or if you want to get more serious yet, consider deliberately lighting the scene, just like TV and film cinematographers the world over.

Going to this extreme isn't always necessary, of course. If it's just you filming the New Year's Eve party, you're better off not asking the revellers to sit down and be quiet while you set up the lights. But when you're conducting interviews, shooting a dramatic film, making a video for broadcast, or making a QuickTime movie for distribution on a CD-ROM (or now even DVD via Apple's iDVD and SuperDrive), lights will make your footage look much better.

The following discussion is dedicated to illuminating those more important filming situations. When you want the very best footage, lit the way the pros would light it, the following guidelines, theory, and equipment suggestions will serve you well indeed.

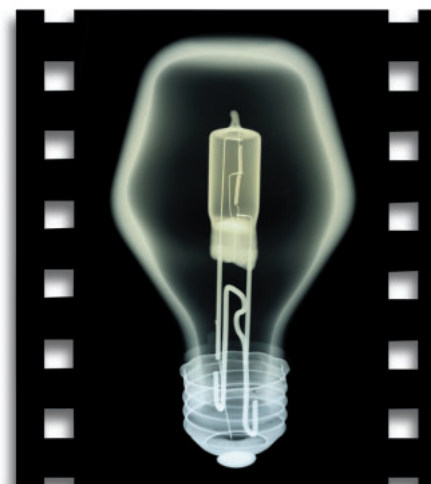
(If you're just shooting kids, relatives, or animals indoors, on the other hand, at least turn on every light in the room.)

Lighting basics

Cinematographers spend entire careers studying lighting; it's a fantastically complex science. Here's what they worry about.

Exposure Exposure means light – the amount of illumination the camera picks up. When the scene is too dark, you lose a lot of detail in dark shadows. Worse, your camcorder's AGC (Automatic Gain Circuit, the video equivalent of the audio-levelling circuitry described in the previous section) tries to amplify the available light. The result, which you can see for yourself by filming in dim light, is in "video noise" (coloured speckles) and unrealistic colours (black become a noisy, milky dark grey). If the scene is too bright, on the other hand, details can wash out, disappearing in white areas.

Contrast The contrast ratio is the ratio of the brightest highlights in a scene to the

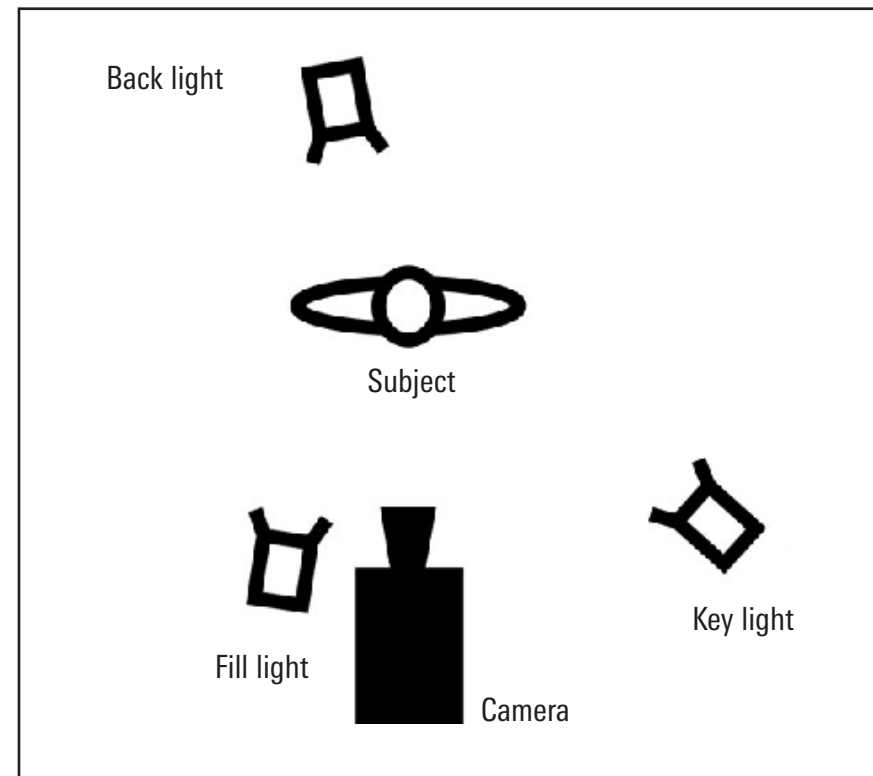


Over its 400 pages, David Pogue's iMovie 2: The Missing Manual (Pogue Press/O'Reilly; ISBN: 0-596-00104-5) provides a complete course in Macintosh film-making – and unearths dozens of undocumented iMovie 2 features. This article is the third of a series of Macworld extracts from the book, which costs £13.95 from all good booksellers.

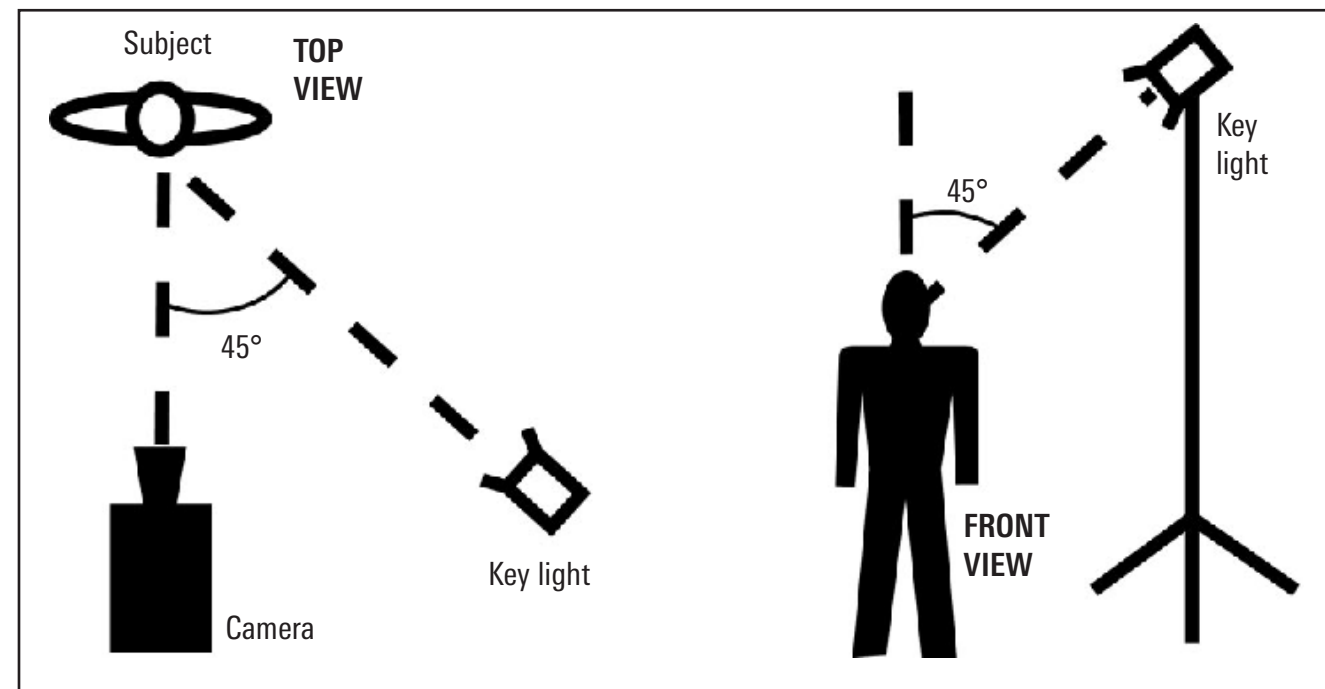
continues page 138



Making light work for iMovie



Back to basics If there's only one source of light in a scene – which may often be the case when you're making home movies – it's called the key light. The fill light usually goes right next to the camera. The back light helps to differentiate the subject from its background. (It also enhances the effect of smoke, haze, rain, and other atmospheric effects.)



Key advice In professional film and TV movies – and very good amateur ones – the key light is usually positioned at an angle relative to the subject, above and to one side. The fill light is usually placed on the opposite side of the camera, so that it more effectively fills the shadows. The back light, meanwhile, is usually on the same side as the fill light.

darkest shadows. Professional filmmakers often set up huge arrays of extra lights to reduce the contrast ratio, thus evening out the illumination so that the camera can record more detail accurately. (When watching a movie being filmed, you sometimes see huge lights set up, even in daylight: they're there to fill in the shadow areas, so that the camera can "see," for example, the actors' eyes.)

Film cameras can photograph details in a scene that has a 10:1 contrast ratio (highlights are ten times brighter than the dark shadow areas). Video, on the other hand, can't capture details outside a contrast ratio of about 3:1 or 4:1. That's another reason lighting is much more important when using a camcorder, as noted above.

Hard light vs soft light Hard light comes from a small light source falling directly on an object. It creates hard edges between the highlight and shadow areas; for example, when someone's standing in direct sunlight, the shadows on his face are harsh and dark. This high contrast emphasizes wrinkles, skin blemishes, baggy eyes, and other facial features – in other words, hard light is unflattering light.

Soft light, on the other hand, is less direct; it offers a softer, much smoother gradations of light from brightest to darkest areas. You get soft light from a large light source, usually reflected or diffused (like the outdoors light on an overcast day, or like the light reflected from the umbrellas used by photographers). The result: soft shadows or no shadows; everything is lit fairly evenly.

Soft light is much more flattering to human subjects, because it de-emphasizes wrinkles and other facial contours. Unfortunately, soft light can also make your subjects appear flat

and lifeless. Harder light can reveal contours, shapes, and textures, making objects more interesting and three-dimensional.

The best video lighting, therefore, comes from direct light sources that are mechanically softened; that's why many video lights have milky translucent covers.

Key, fill, and back lights In professional film and TV work, the most common lighting arrangement is called the three-point lighting setup. It requires that you set up at least three light sources, as shown opposite.

The key light is the primary source of illumination in a scene: the light on the camera, the sun, the overhead light above a table, or the light from a window, for example.

The fill light comes from a second light source. It's designed to fill in the shadows caused by the key light – to reduce the contrast ratio, allowing the camcorder to pick up more details. If your camcorder has a built-in light, that's usually a fill light; it softens the shadows cast by the key light (such as the room lights).

The back light comes from behind the subject. It helps to separate the subject from the background. Back light is especially helpful in distinguishing a dark subject (such as a person's hair) and a dark background, because it casts a glow around the rim of the subject's outline. Be careful, of course: When the light behind the subject is too bright, camcorders respond by dimming the entire picture.

In professional film and video, technicians sometimes set up a fourth light: the background light, which is pointed at the background to make it easier to see (especially in very dark scenes).

Colour temperature Believe it or not, even ordinary daylight or room light also has a colour. In general, daylight has a bluish cast, fluorescent light is greenish, and household bulbs give off a yellowish light.

Filmmakers call these colour casts the colour temperature of the light. We don't usually notice the colour casts of these common light sources because our eyes and minds have adjusted to it. DV camcorders usually do an excellent job of compensating to avoid noticeable colour casts, too, thanks to the automatic white balance in the circuitry of every modern model.

If, even so, you notice that certain shots are coming out too blue, green, or yellow, you can help the camcorder along by switching on one of its Programs (as several manufacturers call them) – presets for Daylight, Indoor Light, Snow and Ski, and so on. Each is represented in your viewfinder by an icon (such as a sun or a light bulb). When you use these, the camcorder shifts its colour perception accordingly.

And if even those adjustments don't fix a particular colour-cast problem, your camcorder may offer a manual white-balance feature. White balancing means identifying to the camera some object that's supposed to look pure white (or colourless), so that it can adjust its circuitry accordingly. To use the manual white-balance feature, focus on something white that's illuminated by the key light – for

example, a clean T-shirt or piece of paper. Zoom in until the white area fills the screen, then press the White Balance button. The camcorder responds by compensating for the dominant colour in the light.

The 45/45 rule This lighting guideline suggests that the key light in a scene be at a 45° angle to the camera-subject line and at a 45° angle above the ground.

General guidelines for lighting

The preceding discussion gives you the theory of lighting design. Here's the executive summary – a distillation that information down into just a few points to remember for the most professional-looking lighting.

The subject should be brighter than the background. Don't shoot people with a bright window or doorway behind them, unless you want them to disappear into silhouette.

If the background is bright, shine additional lights on the subject – and if you can't do that, use your camcorder's Backlight button or its manual-exposure knob, so that the subject is correctly exposed (even if that makes the background too bright).

Stand so that the key light – the sun, for example – is behind you. Don't shoot a subject with the sun behind her (unless you want silhouettes).

Avoid a key light that's directly above your subject. That causes ugly, heavy shadows under the eyes, nose, and chin. (The cinematographers for the *Godfather* movies set up lights this way on purpose, so that the mobsters' eyes would be hidden in shadows. That's not the effect you want when filming the mother-in-law at the wedding ceremony. Usually.)

If you decide to add lights to your setup, you don't need expensive movie lights. At the hardware store, buy some inexpensive photorelector lights (those cheap, silver, bowl-shaped fixtures) and equip them with photoflood or tungsten work-light bulbs.

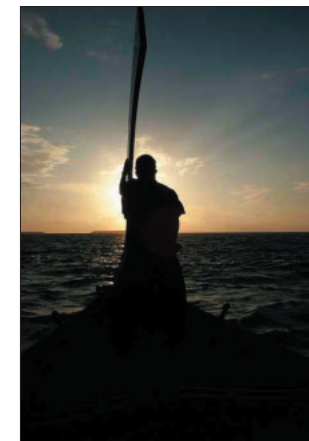
If you're aiming for professional quality, create soft fill lights by bouncing light off of a big square of white foam-core board (which you can get at K-Mart, Home Depot, and so on), or a big piece of cardboard covered by foil or newspaper. This arrangement creates a beautiful soft light – great for close-ups.

Bouncing lights off a white ceiling makes for a pleasant soft key light, too.

Tracing paper, tissue paper, and translucent plastic (such as shower-door material) make great diffusers for soft light, too. (Just don't put the paper in contact with the bulb; this kind of paper, especially tissue paper, ignites easily if it gets too hot.)

Watch out for shiny surfaces like windows, glass, chrome, and highly polished wood in your shots. They can reflect your lights into the camera, making it look as though someone is shining a light directly into the lens.

If the back light spills into the lens, you get flares, those oddly shaped patches of light that move across the frame as the camera pans. The sun behind the subject, or car headlights, often cause flares. Avoid this effect if possible. **MW**



Fright light

As shown above, movies are badly marred by poor lighting. First rule: The primary light source should never be behind your subject, as it is in these two "what-not-to-do" examples.



Painless pop-ups

Fireworks 4 writes JavaScript for you.

By Lisa Lopuck

Web pages can scroll on forever, but that doesn't mean your readers will. A savvy designer makes the most of screen space. Pop-up menus are one way to pack a lot of information into a small area; when visitors to your site mouse over a button that hides a pop-up menu, a new group of buttons or text links appears with additional menu options.

Pop-up menus can also streamline your users' interactions, allowing them to quickly jump to the pages they need. Say you're developing a nutrition Web site illustrating the Food Guide Pyramid.

You build six buttons representing the food groups. When a visitor mouses over a button, such as the one for the Grain group, a pop-up menu appears with additional choices, such as Rice and Pasta. The visitor can scroll down to one of those menu items and go directly to that page.

Macromedia's Fireworks 4 makes it easy to create pop-up menus. You create the images for the buttons, and then Fireworks automatically writes and exports the JavaScript that powers the buttons. In just three steps, you can use Fireworks 4 to create a working Web-page interface with a space-saving pop-up menu.

1

Inserting hotspots To insert a pop-up menu, you first need to add a hotspot to your main button. These interactive elements trigger pop-up menus. In this step, you'll add six hotspots to the fictitious nutrition site.

A



■ Select the Rectangle tool, and create six rectangles, which will become your buttons. With the Text tool, enter the descriptive labels Fat, Oil & Sweets; Dairy; Meat; Vegetable; Fruit; and Grain (A).

■ Group each text label with its rectangle by holding down the shift key while clicking on both the text label and the rectangle, and then choosing Group from the Modify menu. Click on the background to deselect the group. Repeat this for each button.



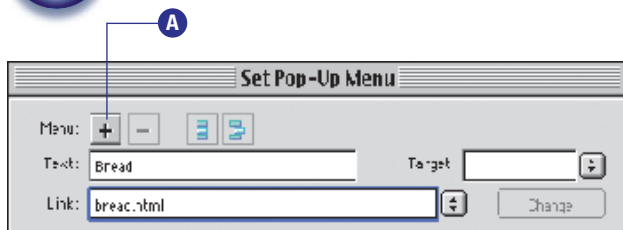
■ Select all six buttons with the Pointer tool by holding down the shift key while clicking on each label. Choose Insert: Hotspot from Fireworks' main menu. The window that appears asks whether you want a single large hotspot or multiple ones. Click on Multiple. You should now have six hotspots of the exact size of your buttons (B). Click once on the background to deselect them.

B



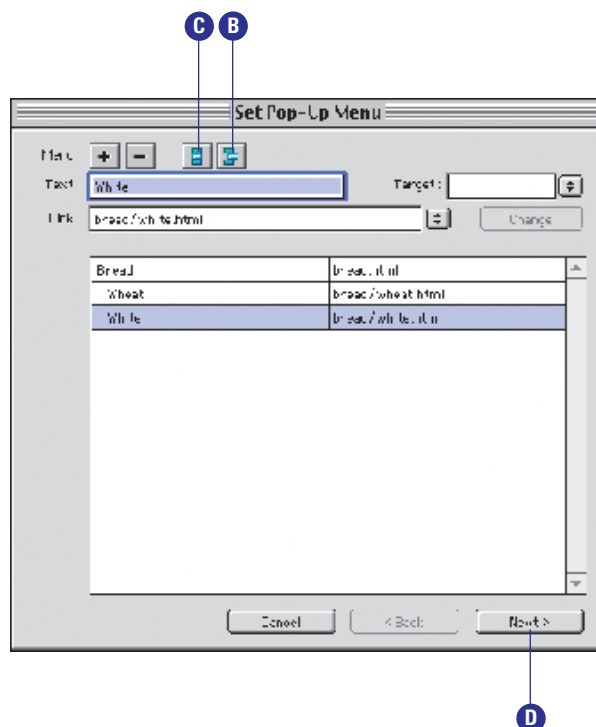
2

Inserting a pop-up menu With all six hotspots in place, you can add a pop-up menu to each one.



■ Select the hotspot for the Grain button and choose Insert: Pop-Up Menu from the menu bar. In the Set Up window, type the first item for the menu, Bread, in the Text field, and then enter a link in the Link field – here it's bread.html. To add the item to the menu list, click on the + icon (A).

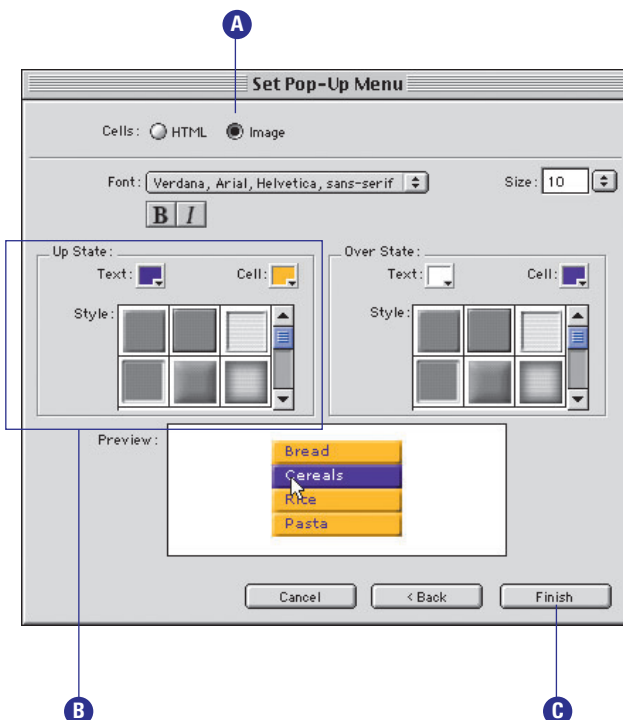
■ Now enter the additional choices you want under Bread. Type Wheat, add a link (here bread/wheat.html), and click on the + icon. With the Wheat menu item highlighted, click on the Create Menu icon (B) to make Wheat a submenu of Bread. Wheat will then be indented below Bread. Now type White, enter bread/white.html, and click on the + icon. To move an item up in the pop-up hierarchy, click on the Promote Menu icon (C). Continue in this way until you've completed all the submenus for the Grain category. Click on the Next button (D) to continue.



3

Finishing and previewing your pop-up menu

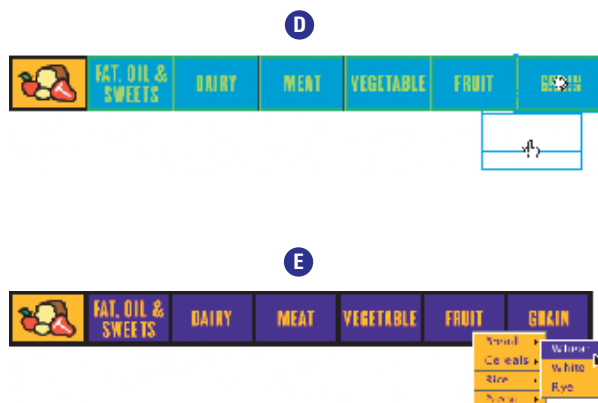
The last step is to fine-tune the pop-up menu's appearance. Fireworks gives you a choice of an HTML or a "button-like" look, and lets you control the font and font size.



■ You can apply various format settings to your pop-up menu. Select the Image option (A). Choose a font style from the font list, and change the font size to whatever looks best with your typeface. If you feel adventurous, play with the image and colour options (B). Otherwise, click on the Finish button (C) to return to your document.

■ Back in the document, you'll see a light-blue outline representing your pop-up menu. With the Pointer tool, click and drag it to where you want it to appear (D).

■ Repeat steps 2 and 3 to add pop-up menus to the remaining five buttons. To preview your buttons, choose File: Preview In Browser. Then just admire your Fireworks handiwork (E).



Your tip of the month wins an hp deskjet 990c m
We reward the tip of the month with an hp deskjet 990c m, worth £279. This graphite colour-printer offers amazing image quality and speed, and is bursting with gadgetry and cool extras.



Q&A/tips



- Office shortcuts
- Hyperlink hypertension
- AirPort mileage

Q&A/tips

Handy Mac tips and readers' questions answered. By Christopher Breen

Remote access alternative

Q Is it possible to access my work Mac from my home Mac via a modem, rather than Apple's Remote Access?

Debbie Wilson

A I have to pause and wonder which aspects of Remote Access do not meet Wilson's needs. After all, with the release of OS 9, Apple generously included in Remote Access the ability to access files on another Mac remotely via modem or the Internet. To activate this feature on her work Mac, Wilson need only open the File Sharing control panel, start file sharing, click on the Users & Groups tab, double-click on the name she uses to access the Mac across the network, select Remote Access from the Show pop-up menu, and select the Allow User To Dial In To This Computer option. On her Mac at home, she should select Remote Only in the AppleTalk control panel's Connect Via pop-up menu; choose PPP in the TCP/IP Connect Via pop-up menu; open the Remote Access control panel; enter her user name, her password, and the phone number of the modem attached to the work Mac; and initiate a connection. Once she's made a connection, all that remains is to select the work Mac from within the Chooser.

Of course, if your work Mac – like nearly every office Mac – reaches the Web through a network rather than a modem, you have to connect via TCP. Because you may encounter changing IP addresses if the network accesses the Web via DHCP (Dynamic Host Configuration Protocol – an Internet protocol that can automate the assignment of IP addresses), it's time for the IT department at your work to earn their keep. Give them a call and ask how to access the network remotely.

However, I can understand why Wilson might be frustrated by Remote Access's limitations: it doesn't allow you to remotely control the actions of your work Mac. No, for that kind of control you need Netopia's Timbuktu Pro (www.netopia.com). For £159, the Timbuktu Pro 5.x for Mac OS twin pack allows you to copy files to and from the remote Mac, actually see that Mac's screen on your monitor, and control its actions (see "Total control"). That's right; although you'll experience slow performance, you're welcome to remotely play a game of Cro-Mag Rally



on your work computer (or, better yet, see if someone else is playing Cro-Mag Rally on it while you're away from the office). With the latest version of Timbuktu Pro you can even send your voice over the Internet.

Total control

Timbuktu Pro is your window to the world of a remotely controlled Mac, and that's handy for troubleshooting.

Bulk addressing

TIP To add several names and email addresses to Microsoft's Outlook Express and Entourage email clients, ⌘-click on messages whose senders you'd like to add to your Address Book and then press ⌘-⌘.

Office shortcuts

Q Office 2001 doesn't support many of the commands previous versions did. Is there any way I can get back to the old short cuts?

Richard Troxel

A Microsoft should make Office keyboard-commands customizable. But, until it does, I suggest that you look into a macro utility such as CE Software's QuicKeys 5.0 (Computers Unlimited,

page 147



Hyperlink hypertension

Q I'm sure Microsoft meant well when it added automatic Web hyperlinks to Word 2001, but it plays merry hell when I use the word processor to craft HTML pages. If I try to edit a URL, Word sends me to that site via Internet Explorer. I've trawled Word's Preferences, and simply can't find how to turn this feature off. Help!

Barry Ferguson

A To turn off individual hyperlinks in Word, simply highlight and press **⌘-K**. To disable this feature more permanently, follow these instructions:

Go to Tools in the menubar; go to AutoCorrect. Here, you'll find AutoFormatAsYouType. There, turn off Internet paths with hyperlinks in Replace as you type. Your browser will no longer open at the most inconvenient time.



020 8358 5857; £35). With QuicKeys, you can easily create a keyboard-alias macro that moves the cursor down within a cell when you press the enter key. And you can extend this keyboard-alias capability to any application on your Mac. (Because I'm occasionally clumsy, I've created a keyboard alias that substitutes the F14 key – assigned to absolutely nothing – for the help key, which I routinely hit by accident when reaching for the delete key.)

Wake-up to weather

TIP Your Mac can greet you with a weather report or the local news when you wake up. Just drag the URL of your favourite weather or news site from the address bar of your Web browser, to the desktop to create a Web clipping; place that file in the Startup Items folder in the System Folder.

Now open the Energy Saver control panel, click on the Schedule button, and create a schedule that starts your Mac before you get up in the morning. When you rise the next day, you'll be greeted by a Web page offering the latest news or weather.

Jon Fowler

Charge and go

TIP A PowerBook G4's battery needs to be "conditioned" to get the best use out of it. To condition the battery, fire up your PowerBook with the power adaptor unplugged and let the battery drain (a good way to do this is to open the Energy Saver control panel, and in the Sleep Setup portion of the window set the "Put the system to sleep whenever it's inactive for" option to Never). Drain the battery once this way, and your battery is conditioned.

Handy OS X alias

TIP With the release of OS X, Apple bundled a bunch of worthwhile software into the iTools iDisk – the virtual hard disk that resides on Apple's servers. Included in iDisk's What's New folder are OS X-native versions of iTunes, iMovie, and a Carbonized update to AppleWorks 6.

Because Apple is likely to fling more goodies onto your iDisk in the future – and it can take a very long time to navigate the folder in that virtual disk to retrieve new software – you'd be well-served to create an alias of the What's New folder and tuck

it away in a convenient location on your hard drive.

When you next want to check on the contents of this folder, just double-click on its alias.

Email summary

TIP In Microsoft Entourage, you can create a summary of an email message by Control-clicking within the body of the message and selecting Summarize Text to Clipboard from the resulting contextual menu. Just paste that text in a text window to view the summary.

Jammed CDs

TIP Should your new PowerBook G4 have difficulty ejecting a CD or DVD disc, try these ejection methods:

1. Press the F12 key located at the upper right corner of your PowerBook's keyboard.
2. Restart the PowerBook and hold down the trackpad button.
3. If all else fails, haul out a straightened paper clip and, with the PowerBook switched off, insert the end of the paper clip into the small eject hole at the right side of the drive, and press until the disc emerges.

Safer streams

TIP If you're listening to audio from a QuickTime streaming server and the sound regularly drops out, try switching the Streaming Transport settings in the QuickTime Settings control panel. To do so, open the QuickTime Settings control panel and select the Use HTTP option.

Listeners of the Mac Show Live (www.macshowlive.com) – the Web-based Macintosh radio show – have found that making this switch provides a smoother stream.

Fat CDs and G4 PowerBooks

TIP Those with Titanium PowerBooks may discover that when they insert a CD with a thickish label, the PowerBook is reluctant to suck in the CD and makes a horrifying sound while trying to run it. Sometimes, the disc may refuse to eject. Apple knows there's a problem with the DVD drives found on some Titanium

page 148



Customize OmniWeb's toolbar

OmniWeb, the Omni Group's Web browser for OS X, allows you to customize the toolbar by either selecting Customize Toolbar from the Window menu, or Control-clicking on the toolbar and selecting Customize Toolbar from the contextual menu. However, once you've added the icons you like to the toolbar, how do you move them around?

Easy enough. Just hold down the **⌘** key while clicking on a toolbar icon to move that icon around.

Tip of the month: Early OS X updates

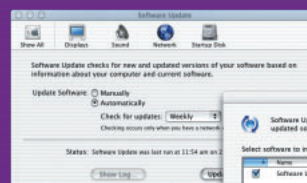
TIP If you are running OS X, and downloaded one of the dodgy 10.0.1 updates that were floating around the Internet before the official version came out, you will have trouble updating to the real 10.0.1.

You can delete the old update quite simply by going into your Library-Receipts folder and trashing the old 10.0.1 update. Then re-run Software Update and it will install normally.

Another point is that once you have run the Software Update, run it again, and again until it doesn't have anything left to update. The updates available with this release can take three runs to download – each time loading new features, such as extra support for Epson printers. Future updates will quite likely keep to the same format, so running the Software Update a few times every time there is something to update is probably a good idea.

During installation the installer will go through an optimization process. Depending on what machine you are using this might take a long time (a couple of hours). It is worth waiting for, though, because it will improve performance.

Bob Richards



PowerBooks, and will fix the problem if you allow it to hold your PowerBook for a week or more. If your schedule currently doesn't allow you to give up your PowerBook for that length of time, you might try this: Burn a copy of that CD on a CD-R burner and use the label-less copy rather than the original disc.

Speedy-OS X install

TIP I found a very solid way to install Mac OS X that really boosts its speed:

1. Backup. 2. Initialize two partitions. 3. Clean install Mac OS 9.1 for a CD on the second partition. 4. Set extension set to base set on 9.1. 5. Install X on the first partition.

If Apple had only put this in the manual, so many people claiming the speed of Mac OS X was too slow for them wouldn't have complained. I am running it on my PowerBook G3/233, and it's fast. The key is that the 9.1 CD has certain items that are missing from the 9.0 to 9.1 updater, and thus the 9.1 CD makes Mac OS X much faster. The Mac OS X public beta leaves invisible files that corrupt the final version. For more details, see www.index-sitw.com/macossxspeed.html
A Brody

Forgetful SoundJam

TIP If Casady & Greene's SoundJam can't seem to remember title information you've obtained via CDDB lookups, turn off QuickTime 4's AutoPlay

option. To do so, select QuickTime Settings from the Control Panels submenu. In the resulting window, select AutoPlay from the pop-up menu. Finally, disable the Enable Audio CD AutoPlay option and close the panel.

Clear resolutions

TIP To see all the monitor resolutions available to your Mac from the Monitors Resolution control-strip module, hold down the Control key while clicking on the module.

Bright idea

TIP If you've mashed your PowerBook G4's Brightness button for a long time and the screen isn't bright enough for you, try this: Open the Monitors control panel, click the Color button, and select PowerBook G3 Series from the list of ColorSync profiles. Although this profile doesn't display colours as accurately, it's certainly brighter.

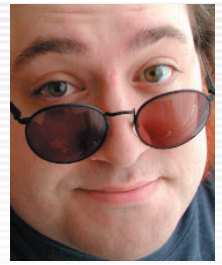
AirPort mileage

TIP AirPort on a PowerBook G4 has a far more limited range than on other PowerBooks, iBooks, and desktop Macs. If you require the kind of range found in other AirPort-equipped Macs, you can add a third-party AirPort-compatible PC Card to your PowerBook. Such PC Cards include Lucent's Orinoco Turbo Silver or Farallon's Skyline cards.

MW

Macworld's chief sub-editor Woody Phillips and contributing editor Christopher Breen answer readers' questions and select reader-submitted tips for this column. Send your question or tip (include your address and phone number) to Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT. You can also send an email, marked Q&A in the subject line, to qanda@macworld.co.uk. We pay £25 for each tip published here. We cannot make personal replies, so please do not include a stamped addressed envelope.





Year we go again

“This time, the blonde woman in running shorts isn’t hurling a hammer at a video image of Big Brother – she’s throwing it at a mirror.”

Let me apologize, folks. The infinite mystery of God’s existence has caused everyone no end of bafflement, and although I discovered the definitive answer some time ago, I haven’t actually done anything with it. That was pure carelessness on my part.

In any event, yes, God does exist. If you’re unwilling to take my word for it, consider this: in all of world literature, only two years are also titles of classic novels: 1984 and 2001. And Steve Jobs chose both of those years for Apple to roll out new operating systems designed to shatter the existing hegemony.

Of course, we shouldn’t take coincidence as the sole proof of a Divine Being’s existence. But, it does represent precisely the sort of cheap irony you’d expect God to go for. God created the coconut, which provides vital nourishment, fibre, and drinking water, and He included utensils with it – just break off a piece – so we could readily access and enjoy it all.

And then, He stuck it 50 feet above our reach in a tree with no branches. Similarly, He chose to have Chairman Steve make his first play during the year in which George Orwell predicted we would be struggling against a totalitarian dictatorship. And now, during the year in which Arthur C Clarke predicted we would move to the next stage of cosmic enlightenment, Steve is back for a second act.

Like it or not, Mac OS X is meant to have the same effect on us as Macintosh System 1.0 had on the MS-DOS world. This time, we’re the enemy – and sure enough, grumbings began with Apple’s very first, very cautious demonstration of the Aqua interface.

The more I work with OS X, the more my attitudes and opinions flip-flop. I mean, I generally like the Aqua interface, but I worry that Apple has traded elegance for flash. I like the new browser-based Finder, but dangit, it takes up a lot of room on my screen.

And while some people’s first experience with Mac OS X was loading up Microsoft Internet Explorer, mine was compiling GNU source code and excitedly seeing how much I could exploit Mac OS X’s Unix heritage. I’m as captivated by X’s Unix underpinnings as Taiwan is by missile defence systems. And yet... several times in the course of the past year, I’ve skidded around a corner in Mac OS X and found myself transported to the dark, humid realms of lowercase backslash

directories when I wasn’t expecting it. It’s dampened my enthusiasm for X every single time.

But – and I offer this only as a possibility – could I be, simply, full of it? Am I evaluating Mac OS X as a brand-new operating system? Or am I just rebelling against having to rethink my 15-year-old definition of the Macintosh experience?

It’s thrilling and frightening. All around me, folks are proclaiming that the End of the Mac is nigh. Others, thoroughly hypnotized by those pulsating buttons, have embraced Mac OS X and are making it do wonderful things.

When we were teenagers, we rebelled against anything and everything. As we made our way into adulthood, we exploited our rebellious impulses efficiently, focusing them on the important issues.

Eventually, though, we’ve all got to realize that the things it’s most important to rebel against are our own hard-won principles and preconceptions – to realize that sometimes there’s a difference between the right way, and what we’ve merely come to think of as the right way. Our gut-level distaste for something new is less about our reaction to the thing in question, than it is about our fears of abandoning the familiar and comfortable.

The computer world faced that challenge in 1984. Some of us were apoplectic with joy about the first Mac and embraced it right away, even though in many ways it was about as useful as a camel that could yodel Gershwin. Others fell in love, but managed to restrain themselves until the Mac became more practical. Still others remain unmoved.

2001 will go down as the Proving Year for Mac OS X. People will buy software for it. Apple will release updates for it. Surely, like the original Mac, Mac OS X won’t be truly finished until it arrives at its equivalent of System 4.0. Until then, we won’t know whether that ending will be like 1984’s, in which we are impotent against the will of the collective, or like 2001’s, in which man learns to play among the stars.

Regardless of the outcome, 2001 will be remembered as the year in which the Mac community grew up. And you’ll see how 2001 won’t be like “1984”: This time, the blonde woman in running shorts isn’t hurling a hammer at a video image of Big Brother – she’s throwing it at a mirror. **MW**